

Western Canada Medical Journal

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SURGERY AND ALLIED SCIENCES

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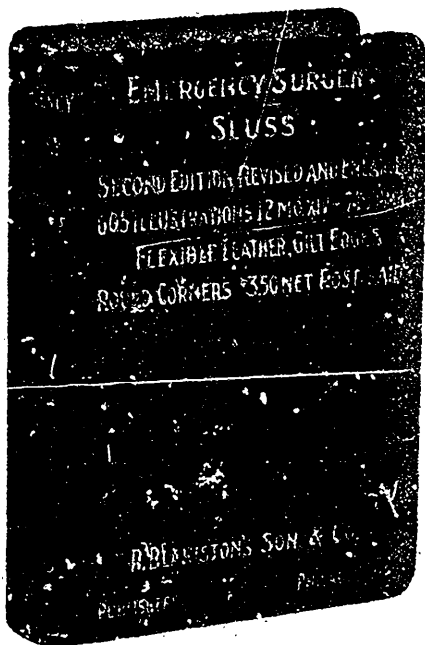
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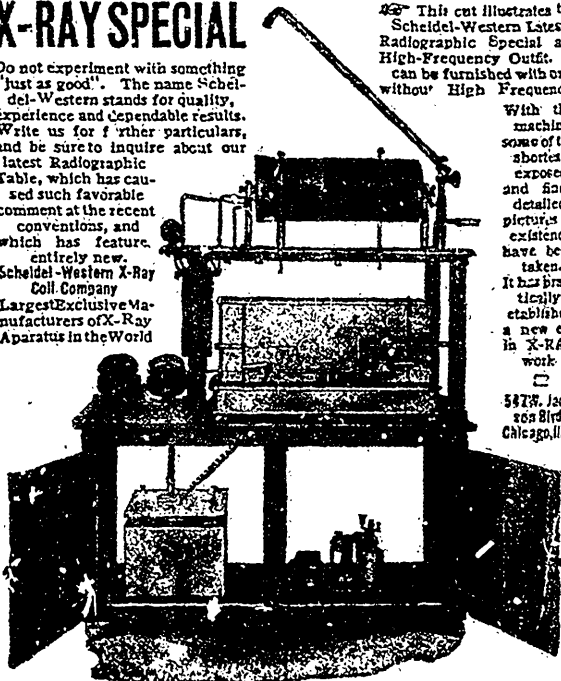
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Western Canada Medical Journal

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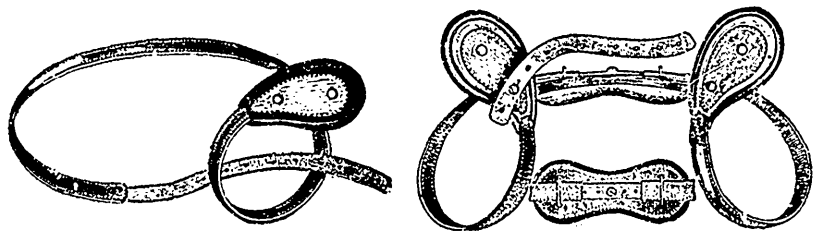
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WESTERN CANADA MEDICAL JOURNAL

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ORIGINAL COMMUNICATIONS

WHY SHOULD HOSPITALS NEGLECT THE CARE OF CHRONIC CURABLE DISEASE IN OUT-PATIENTS?*

By Richard C. Cabot, M.D., Boston.

The Problem.

The dispensary or out-patient department of a modern hospital is usually treated as an appendage of very minor importance. It is the tail, more or less cheerfully wagged by the "house" or in-patient department, where reside those "beds" whose number is ordinarily given as an evidence of the size and importance of the institution.

But may not the tail aspire some day to wag the dog? Consider a few facts. In the wards of the Massachusetts General Hospital, there are treated each year about 5,500 new patients, while that humble appendage, the dispensary, treats about 20,000. I think the proportion is not very different in other hospitals. Yet the amount of money expended on the 5,500 house patients is not far from \$225,000, or \$41 per patient, while that expended on the 20,000 out-patients is \$51,000, or about \$2.50 per patient.

* Read by invitation before the American Hospital Association Sept. 19, 1907.

Is the house case worth spending twenty times as much money on as we spend on the dispensary case?

There are reasons which incline us to say "Yes, the house case is twenty times as important as the dispensary case, and it is right that twenty times as much money should be expended on him." Let us consider some of these reasons.

(a) First of all, the average house patient remains in the hospital, I suppose, at least forty times as long as his brother in the dispensary and fully forty times as much care and study is given to his case.

(b) Lives are saved, not infrequently, in house cases, while the dispensary case may be rescued from nothing more serious than an itch or a headache. Isn't a life worth forty times as much as an itch?

(c) The house patient is taken wholly into the hospital's control. His food, his bed, his washing, his chance to breathe relatively pure air, and all the details of his daily hygiene are provided and controlled by the hospital. The dispensary patient, on the other hand, barely feels the grasp of medical control, is often given nothing more tangible than advice and nothing more efficacious than a placebo. It is obvious, then, that since in a good modern hospital we do much more for house patients, control and guide them so much more efficiently, and keep them so much longer in contact with medical aid, in comparison with dispensary patients, the proportion of money spent (twenty to one), is only natural.

But there is another side to the question. Granted that in the acute dangerous diseases—appendicitis, pneumonia, *e.c.*—the work done in the hospital wards has the chance to be crowned with the incomparable glory of saving life, we still must not forget that in the dispensary we are often confronted with a problem almost as grave—the relief of chronic sufferers. To save a life endangered by acute illness, or to relieve a chronic sufferer from phthisis, neurasthenia, joint disease, who can say that either accomplishment is obviously more important or better worth while than the other? Many chronic sufferers go unrelieved in the dispensary, it is true,

but not all lives threatened by acute disease are saved by the time, money, effort and skill expended in the hospital wards.

Chronic malnutrition, with its myriad resulting evils, such as phthisis, many gastro-intestinal diseases of children and of adults, the chronic neuralgias and the chronic ulcers, is for the community and for the hospital, as great a problem, I think, as the acute illnesses treated in the hospital wards, especially as many of these acute illnesses are themselves the result of chronic malnutrition.

It is true that we do not usually attack this great problem of chronic disease very vigorously or very successfully in dispensary practice. If we are to go on with the methods now in use for dealing with the huge problems which present themselves in the persons of our out-patients, and if we can accomplish in the future, no more than we have in the past in our dispensary treatment of chronic disease, then surely the \$2.25 spent on each patient in our dispensary is amply sufficient. In fact, I would incline to think it is too much. An immense deal of good may be accomplished through the dispensary treatment of chronic sufferers from disease of the heart, the lungs, the gastro-intestinal tract, the bones and the nervous system, but not by the methods now in vogue.

If we are to spend only a few minutes and a few cents on the treatment of these cases the results are so insignificant that they seem hardly worth even the amount of valuable time and money. Unless we can do more it seems scarcely worth while to do so much. Of what use is the elaborate and expensive X-Ray diagnosis of bone and joint diseases when we cannot or do not apply the only treatment that can do most of them any good, viz., rest, pure air, and hypernutrition? Merely to advise these things is as useless in joint trouble as it is in phthisis. The advice is rarely taken unless it is supplemented by friendly oversight, education and financial help, direct or indirect. Again and again it turns out that the chronic sufferer is sick because he is poor or ignorant, or both. But poverty and ignorance are not to be cured by drugs, nor ever by printed directions.

Nothing worth doing can be accomplished for the hundreds of chronic sufferers, dyspeptics, neurasthenics, diabetics and consumptives, who throng our dispensary clinics, so long as everything done in the dispensary is done in a hurry and without any knowledge or control of the patient's home conditions, hygienic, financial and psychic.

It is an ancient and most unfortunate tradition in almost all the dispensaries of the country that everything must be done in a hurry. The attending physician or surgeon in the hospital wards, as he makes his rounds with his retinue of assistants, often goes pretty fast, but he is an emblem of serenity, composure and studious attention when compared with the dispensary physician as he scrambles through his morning's work in pursuit of his lunch and his office hour. He works like a beaver, yet he is dogged throughout his service by a sense of the futility of his efforts to stem the great tide of sickness and suffering as it flows into the dispensary, and out again each day. He is dimly conscious of the fact that a great deal of his work is not worth while, that conscientious diagnosis is sterile when efficient treatment is beyond his reach, and that advice given at the rate and under the conditions in which he must give it, is usually a waste of energy.

Let me sum up my argument so far:

1. The relatively small amount of time, care and money expended on our 21,000 dispensary patients, when compared with the relatively large amount expended on our 6,000 ward patients, is not justified by a comparison of the needs of the patients. The dispensary problem is fully as important as the ward problem, though very different. To solve it as satisfactorily as we now solve our ward problem would need at least as much money and effort per patient.

2. But we are not solving our dispensary problem now. We are only going through the form of solving it and, if that is all we are to do, we are spending far too much money and time on it already. "Thousands for efficient treatment, but not a cent for sham treatment," should be the motto of our

hospital administration. A good deal of our dispensary treatment is no sham at all, but is solid, efficient work. A great deal more is as futile as dipping up water with a sieve. The treatment of varicose ulcer, of many cases of eczema in children, or phthisis, diabetes, pelvic disease and neurasthenia are examples of what I mean by sham treatment.

For this state of things what remedies have we at our command? What reforms are to be suggested?

The reform has already begun—the old regime is already broken at a few points and as we look at those we can see how the victory is to be won all along the line. The whole dispensary problem hangs together and the methods of attacking it are essentially the same, but in only two diseases have these methods thus far been applied, namely, phthisis and the gastro-intestinal disturbances of children. The interest of the general public in checking infant mortality and in checking tuberculosis has penetrated some of our hospitals and revolutionized the treatment of these diseases in dispensaries.

The essential principle of this reform was first enunciated by Dr. J. H. Pratt, of Boston, in describing the work of the tuberculosis class started by him. "A large amount of time, money and intelligent interest devoted to a small number of patients instead of a small amount of these valuables expended on a large number of patients." Dr. Pratt was speaking of the cure of phthisis, but what he said applies as well to the treatment of cardiac, gastro-intestinal, nervous, and joint diseases. We have begun to take our dispensary problem seriously, starting as it happens, with tuberculosis. Sooner or later we shall take the whole of it seriously, and then we shall apply to the treatment of each large group of cases, each common disease, the same principles, the same methods, and the same energy.

The methods are essentially these:

- (1) A separate clinic, a separate day, hour, room, appliances, physician for each large group of cases.
- (2) A corps of nurses sufficient to visit each patient

frequently at his home, report to the physician the facts and conditions bearing on diagnosis and treatment and see that the treatment is really carried out in all its details, not balked and nullified by opposing conditions, financial, hygienic or psychic.

(3) Such co-operation with social workers and charitable agencies makes it possible to surmount the the industrial, domestic and financial obstacles that loom up so large in many cases.

That is what all successful tuberculosis and pediatric clinics are already doing. Into such manageable units our great heterogenous clinics are being split up, but the splitting process must go much further. Through nurses who ply back and forth between the home and the clinic, the doctor must be enabled to grasp his cases thoroughly, while he is enabled to handle them effectively through the nurse's supervision of details. The nurse or visitor—she need not always be a trained nurse—is the hand through which the doctor's mind can grasp and handle his cases with success. Without the nurse he must grope and blunder like a man without hands. Everything is at arm's length and the arms are stumps.

But the third essential principle above stated, the co-operation with social workers is no less important. For the chronic malnutrition, hygienic bankruptcy and mental torment which are the essence of many of our dispensary problems, carry us inevitably to the root of the matter, which to my mind is this: Beyond the special disease of a special child or adult who comes to us in the dispensary, stands a family problem, ultimately a community problem, poverty, unfit and insufficient work, bad housing, bad food, bad habits and associations, ignorance of the ways and means of making a clean and healthy life on scanty means.

If we refuse to recognize this background to many of our cases our treatment is so superficial that it seems scarcely worth the time and money we spent on it. But if we do recognize it we cannot fail to recognize also that the pittance of

money and time now expended on dispensary cases is wholly insufficient.

As I have already said, we have recognized all this as true as regards two diseases, phthisis and the gastro-intestinal maladies of infancy. We have recognized that we are dealing with community problems, which demand, first, education, then personal supervision, and throughout financial and moral support. In our best dispensaries in New York and Boston we carry on an educational campaign with the mothers of sick babies and with our phthical patients; we supervise through nurses and visitors the application of the lessons in practice, and we try to see that the patient does not suffer because his poverty deprives him of proper food and proper air.

All this marks the beginning of an efficient treatment of these diseases. But it is just as applicable, just as essential, in many other groups of cases as in these. In our joint cases, our rheumatic, and cardiac cases, our dyspeptics, neurasthenics, diabetics, our treatment remains inefficient; remains where the treatment of phthisis was when we gave our patients only drugs and printed directions.

The very term "dispensary" is one of the surviving relics of an outworn idea—the idea of a place where medicines are dispensed—and enlarged and elaborated apothecary shop. As we come to see that, valuable as drugs are, they have little place in the treatment of a large proportion of dispensary cases, we reach the second stage of evolution, in which the dispensary becomes a place for diagnosis and for the securing of material for teaching, while therapeutics consist largely of advice, spoken or written, and of placebos. This is the stage in which most of the dispensaries known to me more or less uneasily rest.

But with the application of "efficiency tests"* this second stage of dispensary therapeutics is beginning to be outgrown. We are outgrowing:

- (1) The era of wholesale drugging.
- (2) The tractarian or ritualistic era, when we go through

* W. H. Allen, *Efficient Democracy*, 1907.

the empty forms of treatment by giving out printed directions or tracts.

Let anyone apply to dispensary work any such tests as a good business man applies to the various branches and expenditures of his work,—tests that will show what becomes of our cases, what measure of success crowns our efforts, whether we are getting any reasonable return for our expenditures of money and effort, and it will appear, I think, that to an appreciable extent we are wasting, not investing, both our money and our time.

I do not see how hospital trustees and hospital managers can be content to know as little as they do of the practical use or uselessness of the expenditures in the field of dispensary work. Every good business house checks and watches each of its departments so that it can tell where money and time are useful and where they are wasted, may enlarge here and curtail there, reorganize or abolish departments and get in touch all along the line with the actual results of their work and with the public they wish to serve.

Why should not hospitals do the same? The same all-essential corps of visiting dispensary nurses who keep the physician in touch with his patients in their homes can be utilized to follow up the patients who do not return, and to find out whether their treatment has really been worth what it cost.

The employment of such nurses will obviously increase the number of salaried workers attached to the hospital. This increase has already begun at the Massachusetts General Hospital, and the rapidity and degree of the increase measures, in my opinion, the efficiency of treatment. In our X-Ray room, our Zander room, in our hydrotherapeutic rooms, paid workers give treatment on the spot. I believe that in the long run we shall find that no good work is to be done, either in diagnosis or treatment, until a considerable proportion of the workers, including some of the physicians or assistants, are paid. Like other charitable institutions, hospitals try for a time to get on with volunteer, unpaid workers, physi-

cians, but in the long run such workers can do only a small portion of the work. One hospital with which I am connected managed to get along for over a year with an unpaid superintendent, but, of course, this could not last. No more, in my opinion, can the medical work be well done for any length of time by a staff consisting, wholly, of unpaid physicians. The work is done, but not well done. As soon as we critically test the efficiency of dispensary work and discover how poor much of it is, we shall begin either to pay the physician or give up the dispensaries.

The truth of what I am saying is recognized in the organization of the municipal tuberculosis dispensaries of Boston, where paid physicians and nurses do the bulk of the work. Diagnosis in public municipal laboratories has long been wholly in the hands of paid men. Why should diagnosis in public dispensaries (municipal or not) be any less accurate and reliable? Yet no one will contend that the diagnosis of a case of cardiac or pulmonary disease is as accurately made in our dispensaries as is the diagnosis of a suspicious throat culture or sputum in our municipal laboratories. The hurried examination of a chest by a student or by a physician who has to earn his living elsewhere is not likely to be as good as the examination made by a man whose business it is and whose interests center there.

As in other occupations, apprentices, students and trustees or directors may well be unpaid. Volunteer assistants will always be useful. But the rest of the staff—the main body of workers—must, I believe, be paid if they are to do good work.

When dispensary physicians are paid teachers, whose stipend comes not from the hospital, but from the medical schools they certainly put more energy and intelligence into the diagnosis and treatment of cases than could be otherwise obtained, but at present their interest is not primarily in treatment, but in diagnosis and teaching.

The division of the consumptives in New York City among the different dispensaries and the refusal to allow a

patient to stray out of his own district, marks the beginning of that effective co-operation among dispensaries which I hope to see extended within the next few years. Among the objects which might be thus attained I will briefly mention three:

(1) A knowledge of the current morbidity (not mortality) from various diseases in the city. This would have a value not merely for scientific purposes, but making it possible to detect and check milk epidemics, many of which are not reported to the Board of Health.

(2) The concentration at certain dispensaries of the cases of a certain disease in the treatment of which the physician of a particular dispensary had a special interest or experience.

(3) The exchange of ideas, methods, apparatus, terminology and record systems, between the different dispensaries.

Summary and Conclusions.

(1) The large number of chronic cases presenting themselves for treatment at our hospital dispensaries deserves as much money, interest and time as does the much smaller number of acute cases treated in the wards; for, if we attack the dispensary problem seriously and with appropriate weapons, it is as soluble as the ward problem.

(2) If, on the other hand, we continue our present methods of treating medical dispensary cases, we accomplish so little that it is scarcely worth while to spend upon them so large an amount of money, time and skill.

(3) The reforms which will make our dispensary treatment as valueable and important as our ward treatment are suggested by the newer methods already put in practice here and there for the dispensary treatment of tuberculosis and of the gastro-intestinal diseases of infancy. These methods involve:

(a) The abolition of hurry and of mental confusion by the organization of small separate clinics for each of the com-

mon diseases, clinics in which a large amount of time and effort is expended on a small number of patients.

(b) The organization of a corps of nurses or volunteer visitors who visit each patient's home, report conditions to the dispensary physician (as bearing on his diagnosis and treatment) and supervise in that home the detailed application of the treatment advised at the clinic.

(c) The co-operation of hospital workers and social workers in the solution of those community problems, industrial, financial, domestic and psychic, which are the cause and the essence of a large proportion of the diseases found in dispensary patients. Such co-operation has already been obtained in the treatment of the two "entering wedge diseases," tuberculosis and the infantile diarrhoeas, to which I have referred. But we should co-operate all along the line.

(4) Efficiency tests should be applied by those in charge of hospital expenditure in order that they may direct money and effort into the lines where most good is actually accomplished, and withdraw money and effort from unprofitable fields.

(5) Paid workers are essential wherever treatment is to be effective. Apprentices, assistants and supervising boards may be unpaid, but the rest must be paid if high-grade work is to be obtained.

(6) Closer co-operation between all the dispensary workers of a city would result in better service to science and to the public.

OBSERVATIONS ON A NEW METHOD OF SECURING
A TUBERCULIN SKIN REACTION.*

By

D. A. Stewart, M.D., Medical Supt. of Ninette Sanitarium

and

Sidney Peirce, M.D., Pathologist to the Winnipeg
General Hospital.

Ever since it was discovered that sub-cutaneous injections of tuberculin give a specific reaction in tuberculous cases efforts have been made to secure similar results in easier ways. The sub-cutaneous test is not one to be recommended to the general practitioner. One of the most potent substances in the whole pharmacopea,—“Tuberculin”—must be used with the greatest care and within certain well-defined limits. Its vagaries must be well understood. Dilutions must be absolutely accurate and doses carefully measured not only to avoid harm, but to properly estimate results, and contra-indications, which are not a few, must be known.

The phenomena of the reaction are not to be merely read from a temperature chart, but are to be watched for in many ways and the complete picture co-ordinated with the greatest care. And not only is experience needed to determine what is a reaction, but still more to decide just what a reaction means in any given case.

Again, from the point of view of the patient, the sub-cutaneous tuberculin test is an ordeal by no means trifling. It requires eight or ten days, the injections are looked upon with suspicion and the symptoms of a reaction are, to say the least, decidedly unpleasant. It is small wonder then that workers in this field should wish to discover a means of securing a reaction as accurate as the sub-cutaneous, less troublesome and time-consuming for the patient and at the same time capable of being accurately used by the general

* Read before the Canadian Medical Association Winnipeg Meeting, August 25, 1909.

practitioner who has not had the benefit of special training and experience, one, moreover, which may be applied in office visits.

Leaving out of account some notoriously unsatisfactory methods, such as application to the nasal mucous membrane, there are four which have been more or less widely observed and used, the skin scarification method of Von Pirquet, the conjunctival reaction of Calmette and Wolf Eisner, the inunction method of Moro and the method of Ligniere.

The method of Von Pirquet consists of a slight scarification of the skin of the forearm through a drop of undiluted O. T. The scarification is deep enough to open up lymph channels and to produce a very small scab, but not deep enough to penetrate the skin or cause bleeding. The reaction is definite and local and is shown by large series of cases to be fairly accurate. The discomfort is inconsiderable and complications so rare that they may be disregarded.

Calmette and Wolf Eisner secure a conjunctival reaction by instilling a drop or two of tuberculin in from one-half to three per cent. dilutions of O. T. in the conjunctival sac. A reaction here is more difficult to estimate accurately. There are also definite and important contra-indications and the method has been brought into disrepute by serious consequences in some cases. Compared with the method of Von Pirquet it has no advantages and many disadvantages, and probably has had its day.

Moro applies Tuberculin in lanolin rubbed upon the abdomen while Lignière first shaves a portion of the arm then rubs in vigorously five or six drops of undiluted O. T.

Of the four methods that of Von Pirquet seems to be undoubtedly the simplest, safest and most accurate. Even this method, however, simple as it is, gives much better results in the hands of an experienced physician. The exact amount of scarification required is not definitely arrived at in a dozen or score of tests and not a few positive findings are really small infections as many negatives have their explanation in too feeble scarification.

For the general practitioner who sees few cases and makes few tests, it would seem desirable to find, if possible, an even simpler and less variable means of securing a reaction. Such a one may possibly be found in what has been called the Cuti-reaction or the "lay on" test.

This test has been experimented with in the Gaylord Farm Sanatorium and elsewhere by Dr. David R. Lyman, with whom one of the authors was associated in the tests. Practically the same method is described in a recent number of the *Reportoire de Pharmacie* by Dr. Lautier of Bordeaux, France.

The Gaylord Farm method consists in laying upon the unbroken and unirritated skin of the arm, a small pellet of absorbent cotton soaked with one or two drops of undiluted O. T. and securing this in place with a bandage or strip of adhesive plaster. Usually in 24 hours, but in some cases not until 48 hours a definite reaction appears. This consists of a collection of small pale pink papules, in numbers from one to a hundred, on a slightly raised reddish base. There is little or no induration, no pain and usually the only subjective symptom is very slight itching. The reddened area is usually about one cm. in width. A few of the papules usually become vesicular, but remain very small, and the whole rash—which is co-extensive with the absorbent cotton—disappears on the third or fourth day. Fifty-two sanatorium cases gave forty-eight reactions and it is of interest to note that two of the four negatives were negative also to the sub-cutaneous test. Plain bouillon applied some time afterwards as control to the same cases, gave seven reactions in fifty cases, which is not easily explained. In a second series of 28 cases, 60% reacted and 2 cases reacted to the control. In a third series of 25 cases one case reacted to the control. In a third series of 25 cases one case reacted to the control test, but Barnes of the Rhode Island State Sanatorium tried the same control on 100 sanatorium cases without a reaction. The test, without controls, in the wards of the Hartford General Hospital occupied by advanced cases of tuberculosis, gave a reaction in practically

all cases except the very far advanced. In a small number of apparently non-tubercular the test gave a negative result.

In two cases in which reaction had been marked, on the sub-cutaneous test being afterwards applied, a patch about $1\frac{1}{2}$ " in diameter resembling the wheal of urticaria, with definite raised edges, made its appearance. On the whole, therefore, the reaction seems to be specific, but reactions to the controls remain to be explained. Dr. Lyman reported the above cases in a paper read before the Climatological Association at Atlantic City in June 1909.

Lautier adopts much the same technique except that he uses a weaker solution of tuberculin and covers the pellet of absorbent cotton with a square of gutta percha tissue, completing the dressing with a bandage. His controls, pledgets soaked with other substances applied to the arms of tuberculous persons and pledgets soaked with tuberculin applied to the arms of healthy persons, have all given negative results, and his positive reactions have been in close agreement with results obtained by the methods of Calmette and Von Pirquet.

This method of applying the skin test has been used to a limited extent during the last year at the Winnipeg General Hospital. Some details of a series of 30 cases tried during the last week are given below:—

The method of applying the test varies slightly from that described and is as follows:—

To the center of a square of adhesive plaster (about 5 cm. square) is applied a smaller square of rubber tissue (one cm. square). On the center of the square of rubber tissue is placed 1 drop of undiluted O. T. The skin of the upper arm is rubbed briskly with alcohol until reddened and to it the preparation described is applied like a postage stamp. The test is revised at the end of 48 hours.

The cases to which the test was applied were unselected and consisted of practically all the patients in the children's wards and one of the male surgical wards. Two unselected cases from the phthisical wards are also included. Ages of the cases vary from 3 months to 49 years.

The character of a positive reaction in adults is that described above, but in children it was usually much more intense. In these cases a positive reaction consisted in the appearance (on the removal of the plaster at the end of 48 hours) of an intensely reddened, slightly raised and indurated area of skin about 2 cm. in diameter which is thickly set with small red papules, which in a well marked case may be vesicular. Subjective symptoms are usually absent but may consist of a slight itching. The redness of the skin may persist for a week or more, but generally fades to a brownish discoloration, desquamates and disappears.

Of the 30 cases 17 reacted positively. The 17 positively reacting cases are classified as follows:—

Tubercular bone cases	6
Chronic inflamed knee (undiagnosed).....	1
Tubercular adenitis	1
Phthisis pulmonalis	3
Chronic empyema	1
Keratitis (child 4 years)	1
Typhoid (mother phthisical)	1
Ununited fracture	1
Burns (slow healing)	1
Club feet and deficient mentality.....	1
	<u>17</u>

Of these 17 cases 10 are undoubtedly tubercular and 3 probably so.

The 13 negative cases may be classified as follows:—

Infantile diarrhoea	2
Sepsis	3
Injury	3
Myopia	1
Ricketts	1
Sarcoma	1
Eczema	1
Syphilis	1
	<u>17</u>

Of these 13 cases none are tubercular. In 11 cases a control of glycerine bouillon was applied simultaneously to the same arm, which in every case was negative.

Whether this method will be found sufficiently accurate or not to be depended upon, remains to be seen. It has to recommend its absolute harmlessness and extreme simplicity and should be worthy of a trial. In any case a record of the action of Tuberculin applied in this way cannot but be of some interest to those who seek to learn all that may be learned about Tuberculin.

WHEN TO OPERATE IN GALL STONE DISEASE.*

By

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Surgeon to Out-Patient Dept. Winnipeg General Hospital.

Mr. President and Gentlemen:—

I have chosen this subject because it is one about which there is a wide variance of opinion even among recognized leaders in the profession. On the one hand we have the dictum of Winiwater¹ that the presence of gall stones is an indication for operation, while Kehr² on the other hand states that 95% of all cases remain at least from severe symptoms entirely free and would, therefore, require no surgical treatment whatever.

When opinions so widely divergent are expressed by men of wide experience in gall stone disease, it would seem to be a matter of importance to have all light available thrown upon the subject, by investigation of the clinical course of the disease, the report of cases and discussion of them, in order to determine if possible at just what mid point safe surgery should make its stand.

There are certain conditions in which there can be no hesitation in saying that operation is indicated. When cancer of the gall bladder or ducts is suspected or has developed when stones have emigrated into the ducts or when there is severe infection of the gall bladder or bile ducts the indication for surgical interference is usually undoubted.

Cancer of the gall bladder does not differ from cancer of any other part of the body. It admits of only one treatment, early and complete extirpation. The question as to whether the presence of gall stones shall be regarded as a precancerous condition will be considered later.

While stones may remain quiescent in the gall bladder and cause little inconvenience or suffering, the condition is different when they have migrated into the ducts. Then the

*Read before the Surgical Section, Canadian Medical Association, Winnipeg, 1909.

flow of bile is interfered with, and the patient suffers from time to time from attacks of biliary colic with varying degrees of infection of the bile ducts depending upon the location at which the stone may have become impacted. Impaction in the cystic duct may lead to an acute serous or purulent cholecystitis. This condition, if unrelieved, may result in adhesions of the gall bladder to one of the neighboring internal organs, as to the stomach or intestine with the formation of fistula and discharge of stone into these organs, with the possibility of intestinal obstruction and the invariable result of an ascending infection of the bile passages. Besides this, perforation of the gall bladder into the free peritoneal cavity or gangrene of the gall bladder with general peritonitis may supervene.

The following case is interesting in connection with such a course of events.

Case No. 1.—Mrs. K., aged 55, was taken ill with a severe pain in the right hypochondriac and epigastric regions with nausea and vomiting. The pain subsided but the nausea and vomiting continued for over a month. A tumor with the characteristics of a distended gall bladder was palpable below the right costal margin. She was not jaundiced. At operation I removed an enlarged and thickened gall bladder the size of a large cucumber. It was distended with a yellowish mucopurulent substance and contained a considerable quantity of biliary sand. The cystic duct was obstructed and the gall bladder was perforated on the liver side. She made a splendid recovery.

Severe infection of gall bladder or bile ducts calls for drainage with removal of stones if present. The question whether operation should be resorted to immediately or delayed until the acute infection has subsided is one that must be settled for each individual case. I am of the opinion that most of these cases of acute infections will subside under expectant treatment, that the infection will become less virulent and permit later of a safer operation. Richardson's well-known remarks regarding appendicitis, that there are cases

too late for an early and too early for a successful late operation, might well be applied here. The following case may serve to illustrate this point.

Case No. 2.—Mrs. L., aged 45, was admitted to St. Boniface Hospital suffering from severe abdominal pain and vomiting. As there was no one who could speak her language at hand, very little history could be obtained. She was extremely ill, temperature 102°, pulse 120, irregular and intermittent, tongue was dry and there was delirium. The abdomen was distended and tender and rigid on the right side. A mass could be felt in the gall bladder region. Her general condition was so suggestive of typhoid that I requested a widow to be taken which was reported positive. The fever, however, subsided in a few days. The blood showed a leucocytosis of 23,000 with 87% polymorphs. Two weeks after the acute symptoms had subsided I removed a large gall bladder containing three calculi and filled with pus. One stone was blocking the cystic duct. She made a good recovery. I am satisfied that had this patient been submitted to immediate operation in her condition on admission to the hospital during the stage of acute infection the termination would very likely have been fatal. Riedel³, however, advises early operation in these cases.

When stones have been impacted in the common duct, the patient is usually jaundiced and suffers from severe attacks of biliary colic with intermittent hepatic fever (Charcot's fever). In such a case, unless the stone passes spontaneously into the duodenum it should be removed as soon as the acute infection has subsided. Beyond this, nothing can be gained by delay, while, on the other hand, the condition of the patient may become progressively worse. Opinions differ as to how long one would be justified in waiting, but I see no reason why suffering should be prolonged in a condition which not only does not tend to spontaneous cure, but involves the risk attendant upon cholemia.

The following is a case in point.

Case No. 3.—Mrs. H., aged 38, had been suffering for

fourteen months from jaundice with intermittent attacks of biliary cholic accompanied by chills, fever and vomiting. She had had every kind of medical treatment and had apparently been advised against operation by her medical attendant.

At operation the gall bladder was shrunken and one stone the size of a hazel nut was found in the retro-duodenal part of the duct, which I removed by incising both anterior and posterior walls of the duodenum. She made an excellent recovery. This case being of special interest I have reported it more fully in the *Annals of Surgery*.

Having thus considered what might be termed the end results of gall stone disease in which the indications for operation are unquestioned, we come to the consideration of the earlier stages in which the stones are still within what may be called their normal habitat, the gall bladder, and in a more or less quiescent state. The question is, shall we remove stones from the gall bladder if causing only slight suffering. In other words, shall we remove stones from the gall bladder if diagnosed? The question as to operating or not operating, is a matter of weighing the risks of operation against the risk to the patient from their continued presence.

Let us briefly consider some of the risks attendant upon their continued presence within the gall bladder.

Severe Risks. Naunyn* says, "cholelithiasis is a disease which becomes dangerous through cholecystitis and cholangitis and their consequences, through chronic icterus and through carcinoma."

Cancer. Bland Sutton⁵ collected the cases operated on in 1905 in the chief hospitals of London and found in the series of 183 operations, 17 cases of cancer of the gall bladder.

In a series of 1800 cases operated on by the Mayos⁶, cancer was found in 4%.

Riedal⁷, up to 1908, saw 95 cases die of cancer of the gall bladder and he says that one-fourth of these might have been saved through early excision.

According to Schroeder⁸, 14% of sufferers from gall stones

develop cancer of the biliary passage. This percentage is no doubt too high.

The frequency with which stones are found in cancerous gall bladders has led many observers to the belief that the irritation of the biliary concretions leads to the development of cancer. Kehr² states it to be "An uncontrovertible fact that the concretions furnish the stimulus to cancer formation." Again, in a series of 150 cases of gall stones treated by Naunyn⁴ in the Strassburg Medical Clinic, eleven died of carcinoma.

A striking fact in this connection mentioned by Bland Sutton⁵ is that it is in the cases in which the familiar signs and symptoms of cholelithiasis have been in abeyance that carcinoma seems most prone to develop.

But carcinoma is not the only complication to be dreaded by the individual who harbors gall stones. Others are frequently seen in the wards of large hospitals, while others again are fortunately more rare. An account of these would be incomplete without acute cholecystitis with diffuse suppurative cholangitis, hydrops, empyema, phlegmonous and diphtheritic inflammations, gangrene and perforation of the gall bladder, liver abscess, ieterus from obstruction to the common duct, and intestinal obstruction.

On the other hand, let us consider the risks of operation. In the records of experts, operations such as cholecystotomy with removal of stones has had a mortality of about one per cent. Of other series of cases which might be mentioned such as these of the chief London Hospitals referred to by Bland Sutton⁵ and those given by Körte⁹, in which the mortality is somewhat higher, it may be said they represent the statistics of conservative surgery and seems very largely made up of advanced cases. From this it would appear that the safest course would be to remove gall stones while they are still in the gall bladder and in a quiescent stage. Operating at this stage, with patients not reduced by acute infections, the mortality should be extremely low, not more than one per cent.,

while in operations in acute infections and duct obstructions the mortality mounts up to from five to fifteen per cent.

In eleven cases operated on by myself including two cholecystectomies for empyema and one transduodenal choledochotomy for common duct obstruction, I have been fortunate in having no fatal termination.

In short, the best treatment of gall stone cases which show marked symptoms, is surgical, not medical. This conclusion is reached also by Kelly¹⁰ writing in Osler's recent work on Medicine. "The Physician . . . must recognize his limitations and by a judicious balancing of his abilities and limitations, not subject his patient too long to a useless medical treatment, when early surgical intervention may restore him to health, whereas delayed it may not only add to the miseries of a miserable existence, but actually hasten the final termination."

But what of the cases in which the stones have not made their presence known by any marked symptoms, but in which they are found in the course of operation for other causes? Should they be removed? It must be borne in mind that gall stones, apparently the most innocent and most devoid of symptoms, are not infrequently the cause of severe life-threatening affections, and it must also be remembered that however quiescent now, they may at any time give rise to trouble. It would seem, therefore, that when in the course of an operation for other conditions gall stones are found to be present, the opportunity for getting rid of a dangerous focus should be taken advantage of.

I am, therefore, of the opinion that in cases presenting repeated attacks of gall stone colic or even one severe attack, operation should, apart from distinct contra indications, be resorted to, and that when stones are found to be present in the course of an operation for other causes, they should be removed, provided the patient's condition be good and the operation be not unduly prolonged.

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THE RESPONSIBILITY OF HEALTH AUTHORITIES
IN REGARD TO INFANT LIFE
AND HEALTH.

By Benjamin Broadbent, M.A.

There are certain facts relating to infant life and health sufficiently established to require no further proof. I will mention four. First, out of the 120,000 deaths of infants in this country at least one-third are preventable—probably the proportion is one-half. This means an annual loss of life in this country of from 40,000 to 60,000 lives. Second, along with this enormous loss of life there is a still larger loss of health. Third, the injury to health caused in infancy is permanent and irremedial and lasts throughout life. I am not prepared to say that the whole of the lunacy and vice and incapacity is caused by neglect to infant health, but it is an indisputable fact that a very large portion of those who are the unemployables, the feeble in body and mind, the hopeless inmates of our workhouses are simply the matured products of injured infancy. An unhealthy baby develops into an unhealthy child, and the unhealthy child into an unhealthy youth, and that again into an unhealthy maturity. The man or woman worn out at 30 or 40 and unfit for everything is the only possible product of an infancy badly fed and badly treated and badly trained. We sow the seeds in babyhood and we reap the fruit in manhood. Fourth, the causes of this permanent waste alike of life and health are discoverable, though various. It may require an investigation into local conditions to determine the particular causes which operate in different localities, but a very slight inquiry will show that there are three leading causes almost everywhere—the ignorance of mothers; unwholesome homes and surroundings of the home; the unsuitable employment of child-bearing women. More difficult to trace are two causes, which nevertheless are most potent when present—drink and sexual vice. It may be noted that

I have not named Poverty as a cause of these evils. Poverty, apart from vice and drink, is not a factor in regard to infantile mortality. As an injury to the well-being of growing children poverty has some effect, but in poor, large families, the baby is generally fat and flourishing even when mother and father and elder children show pathetic signs of lack of means.

Now all the evils which cause this waste of infant life and health are remedial and removable. It is within the range of possibility that within one twelve-month the infantile death-rate could be reduced by at least one-third, and with the reduction in the death-rate could be secured a higher health status of the whole population. There is, therefore, only one conclusion to be drawn. An evil so gigantic, so far-reaching, so permanent, so well-known, and so preventable, ought obviously to be prevented. To lift the whole community into a higher state of physical well-being is obviously a work to be done, and done at once, when it is seen to be possible. That at least is my own way of looking at it. If I may be a little personal and reminiscent, I determined to make an effort when I knew neither the causes nor the remedies nor the possibility of remedy, when we had no machinery, no appliances. I knew that babies were dying and suffering, and thought that it was not really an inevitable necessity that they should die and suffer, and I made an effort to help the poor mothers. We succeeded far beyond any expectation or hope, and at the same time we learnt, and others learnt, much of the cause and saw clearly what seemed to promise some remedy of wider and more general application. Fuller and wider experience has led to fuller and wider knowledge, and this again to more complete action and more systematic effort, and where once I had to tread carefully I can now walk boldly, and if it were not for limited means and powers, and the dead drag of public indifference, I believe it would be possible to reduce our infantile mortality not merely by one-third, but by more than one-half.

The question then is simply how and by what agency is this great remedial work to be done? What is the respons-

ibility of our Health Authorities in regard to infant life and health? Is it not their duty and obligation to take a part in the remedial work of the preservation of life and the improvement of health in infancy?

It would not have occurred to me that there could be any doubt at all on the subject if I had not seen it questioned again and again. It is to me almost incredible that any Health Authority should say—"What have we to do with babies whether they live or die? That is no concern of a public body of administrators; it is the concern of the father and mother; what have we to do with their babies?" In reply, I would ask a question or two—What are Health Authorities set up to do? Are not babies a part, and a large part, of the public? Are babies too small and insignificant to be counted as members of the public? Have not babies just as much right to the protection and care of the Health Authority as they have to the protection and care of the police and the law? Have they not as much right to live and to live healthily as any adult? Nay, rather, they have more right, by virtue of their helplessness and their inability to make their grievances known. . Anyhow, it will be granted that the deaths of babies make a figure in the statistical returns of all Health Authorities. Whatever may have been the case even a few years ago, there can no longer be any doubt that the care of infants has come to occupy a very important place in the eye of the law. The report of the Physical Deterioration Committee and the recently passed Children's Act have swept away forever any doubt there may have been as to the value the State sets upon its babies and the care of them. The Public Health Authorities are the executive for the administration of the laws the State enjoins, and I venture to predict that it will not be long before "that two-handed engine at the door" will knock and knock loudly at every Health Authority's door and demand to know what that Authority is doing for the babies that belong to the State. There is no room for doubt that whether willingly or unwillingly the Health Authorities have upon their shoulders a large part of the responsibility

for the life and well-being of the babies. The responsibility has been there all along, but it has been neither recognized nor fulfilled; now it will have to be both recognized and fulfilled.

It is perhaps necessary that I should here put in a limitation lest I should be misunderstood. The responsibility of a Health Authority for the welfare of the baby is not in the least a transfer from the parents of any of their responsibilities. It has been a bugbear in the discussion of the question generally that any measures taken for the better care of children of all ages have been said to be calculated to interfere with parental responsibility. I have never had much patience with this plea, and I think it is time it was abandoned altogether. In the Medical Inspection of Schools regulations, and in the more recent Children's Act, it is made most abundantly evident that so far from tending to remove or diminish parental responsibility these measures and all attendant regulations directly and most emphatically increase and enforce parental responsibility. So it is with all Health Authorities; their task is to enforce, not to take away, parental responsibility. It is to me one of the most encouraging characteristics of the whole movement that this effect is being already produced. Parents who do their duty are encouraged and helped by all this legislation; parents who are neglectful are compelled under penalty to be more careful of their children. If I may be permitted to give an illustration of this thoroughly right and commendable attitude of the State, I can draw one from an ancient sculpture in the Forum of Rome. You find there a representation of the Emperor Trajan seated in his chair of State, and before him is a woman with a child in her arms looking at the Emperor with an expression of surprised gratitude; it is evident from the action of the piece that the Emperor has just placed the child in the woman's arms. We learn the interpretation from hints given us of Trajan's character and life. He, though a childless man, cared deeply and wisely for children. The children of Rome belonged not only to the mothers, they belonged to the Em-

peror. They were his as well as theirs. So this sculpture represents him as the Father of his people, the Father of the babies of his people. Having received the child as his own, he hands it back to the mother with an expression on his face that says, "Take th's child and nurse it for me," and the delighted gratitude of the mother receives the child not with any the less, but with all the more, responsibility, feeling that her child is not merely her own but also the child of the Emperor, and that her child is cared for not by herself only but also by the State. That sure is exactly what is being done by recent legislation and recent administration. The State is recognizing the value of the child and is impressing on the parents that their child is also the child of the State, and must be cared for as a national, as well as a personal, asset. With this limitation the duty of the Health Authority is to care for the health of the infant just as carefully as for the health of all other members of the community.

I think that it may be urged further that the obligation to care for infant life and health, as well as for the general health of the community, rests upon the Health Authority for another reason than the general one which I have named. If the work is to be done at all, it ought to be done by the part of the administration best qualified for this end and the best equipped for this purpose. Undoubtedly that requirement is fulfilled by our Health Authorities under our local administration, whether in the County areas, or the County Boroughs, or the smaller Boroughs, or the larger Urban Districts. All of these have already established very efficient medical administration, and in most cases this has recently been strengthened by the administration of the school medical inspection work. Any enlargement or extension of medical or general health falls naturally and inevitably upon the already existing department. It is indeed surprising how admirably fitted our health administration is for carrying out the new work both in regard to school inspection and in regard to infant life and health. If it had been planned by a wise foresight, the arrangements could not have been much better prepared.

There needs no fundamental change at all, no transfer of powers, no alteration of officers; there merely needs some additional staff and a very small enlargement of official accommodation. The field is absolutely clear, and there are no complications with previous voluntary or philanthropic or religious workers. Our whole public health administration is so fortunately placed that from the great central body concerned with public health—the Local Government Board—down to the smallest administrative area, the machinery is ready without any adjustment whatever. The part taken by the Boards of Guardians is so small that it may be left out of the question altogether. Even religious and philanthropic effort has left babies out of the sphere of their activities, and the Health Authority can, without any interference, take possession of the hitherto unoccupied field, and organize and carry out its work free from all complications. That is the present opportunity, and it ought to be taken at once, because the opening will not remain clear. The public mind and conscience is now so aroused and awake that inaction in regard to infant life and health is no longer possible, and if action is not taken by Health Authorities, it will certainly be taken by religious or philanthropic, or possibly scientific and medical bodies. Good as these may be, their administrative powers are most limited, and the results of their action would probably be a chaos of conflicting, overlapping, non-effective effort, producing a minimum result with a maximum expenditure of energy and money. The proper work of all this energy—religious, philanthropic, medical, and scientific—is as the auxiliary of the municipal work which should direct and control the whole. The Health Authority should be the central force, inspiring and disciplining, and putting into effect and useful operation every part of the whole force. The municipality must have the first place, and lead all the time, or confusion will certainly ensue. To my mind the fact that the Health Authorities can do the work so much better, and so much more easily, than any other conceivable body, makes it obligatory on them to take it up.

What, then, are the methods by which Health Authorities should fulfil the obligation resting upon them? On this point I must content myself with mentioning two which my own investigation and experience have proved to be effective.

I consider the first step towards any effective action for saving infant life and health is to get to know that the babies are born. I am aware of the objections that have been urged, especially from the medical profession, in some places, but on the broad common-sense principle that you cannot deal with a thing till you know that it exists and where it is, I can see nothing that can be substituted for this early notification of births. Before anything can be done to care for the infant we must know it is there. But it is of no use knowing of the existence and whereabouts of the baby unless we are prepared to do something to promote its welfare. We must not expect the mother to come to us; we must go to the mother. There must be an official Health Visitor who must go at once, for the obvious reason that if help is needed it is needed at once, and delay may mean death or blindness, or permanent disability in some form. This visitor should surely be a woman. If the Authority can afford it, I am strongly of opinion that the official lady health visitor should be a fully-qualified medical woman; if the Authority is too poor or (what is more probable) thinks itself too poor, then the next best must be substituted—a qualified nurse with the special training of a midwife—but I should most strongly deprecate the appointment of anyone less qualified than this for such a post. The duties are neither simple nor easy, and cannot be properly carried out by even the best intentioned but untrained woman. I think that there should be one fully-qualified official for each 1,000 births per annum.

These measures—the early notification of births and immediate visiting by properly qualified visitors—seem to me to be the irreducible minimum of what every Health Authority ought to do in fulfilment of its responsibility in this matter. But, in combination with this simple bit of official organization, it will generally be found easy to supplement the work

and enormously increase the effectiveness by the enlisting voluntary help. It is not perhaps necessary that I should on this occasion dwell at any length upon the utility of such voluntary associations. There are elements of danger in coordinating voluntary and official work, but once fairly understood the two can be made to go most harmoniously together, and each help the other. Official work tends to become stereotyped and hard, while voluntary work is often spasmodic, blowing hot and cold. Often a voluntary association starts off with tremendous zeal and energy, but in a year or two tails off into inertia and weariness. During the inevitable periods of slackness in all voluntary organizations, the official wheel grinds slowly and steadily on, and fills up the gap till interest revives again and fresh life is infused into the work. The only point to have steadily in view is that the official must lead and the voluntary follow. It may be necessary sometimes that the voluntary should, so to speak, push forward the official, but the official must always be in front, guiding and directing and informing.

EDITORIAL

What Others Think
of Us.

The following editorial from "The Province," B. C., March 8, is interesting; as it shows us how our cousins over the Line value our standard of Medical Education and also that the Public are beginning to take keen interest in the question of Medical Education:

"The announcement in a dispatch from Kingston that the American Medical Association, in its latest report, issued at Chicago, had placed four Canadian Medical Colleges in the front rank, one in class "B," and had condemned three, should not by any means be unsatisfactory to the people of this country. If there are in the Dominion three medical schools, presumably issuing diplomas, which are not up to the mark, it is well that the fact should be known, so that steps may be taken to make them conform to a proper standard. But would it be safe to accept the verdict, in regard to them, of the American Medical Association? Before doing so it may be well to hear what the association has to say of many of the medical colleges in the United States, from which men are turned out in great numbers with highly ornamental certificates, and the smallest possible knowledge of medicine.

"There are, of course, in the United States, a number of excellent colleges, some of them of world-wide reputation, and there are many able and eminent physicians; but candor will compel any American who is informed on the question, to admit that the majority of medical colleges in the republic are not only inferior, but should positively be suppressed in the public interest, as the graduates from these institutions are unfit to treat patients for even the least complicated ailments. On the other hand, the prominent medical schools of Canada are recognized, not only in our own country, but very-where, as of the highest class, a degree from which is a real guarantee for knowledge and skill.

"Our own authorities, however, should give attention to the reflection contained in the American association's report that there do exist a very few colleges in Canada that are not up to the mark. If it is found that there is good ground for this statement, measures should be taken to remedy such a state of affairs. No certificate should be issued in this country granting men the privilege of practicing medicine unless they are competent, unless they have been tried and found to possess a sound basis of knowledge, the result of study and instruction."

Needed a
Western Medical
Federation.

We would like to draw the attention of the Western members of the Medical profession to the fact that the Dominion Medical Association asking the B. C. Colleges of Physicians and Surgeons to take no action until the amended Roddick Act has passed Parliament virtually is putting a stopper on the culminating Acts of the Inter-Provincial Federation of the four Western Provinces. To point out the advantages to the West of such Western Federation is unnecessary. All thinking only of the welfare of the West are agreed on this point. Western Associations and Federations are the order of the day. If one or two callings only were convinced of the wisdom of such a step we might hesitate but soon the medical profession will be the only calling not having this Western Unity. In another column mention is made of the Educationists of the West feeling the need of Western Federation. Apparently they agree and act. Our experience has been agree but not act. As for Dominion Unity being hindered by such Western Unity it is made easier. The reason is obvious. It is simply the East still desiring to have control of Western medical matters. While we are isolated provinces this is possible. We are a number of ineffectual small bodies without strength, joined we can watch our own Western interest and help forward Dominion. One part being strong and progressive surely means good for the whole.

Let Western men who have any desire to protect their interest look into this matter. Consideration will prove to them that the time has come for action. Opportunities may occur again and again as optimists tell us, but certain vital ones do not return our way. Now is the time to show we are a Western medical profession desirous of a high standard and that while we shall be a part of the whole, we intend to be a strong, progressive part, not an insignificant nonentity whose opinion is hardly worth consulting by those at headquarters. The remedy for this state of affairs is a Western Canada Medical Association, independent of provincial or local associations. Its duty will be to look after the interests of the West as a whole. All we gained last year will be lost to a certainty unless a new, vigorous and determined organization with forces that make for strength and unity is formed.

It is hardly necessary to reiterate the work done by the Colleges of Manitoba and Alberta under the stimulus of Dr. Brett to bring about inter-provincial federation in the West; the time and energy spent by Drs. Patterson and Milroy, by Drs. Brett and Kennedy in touring the West to discuss the matter with the various associations and the men themselves; the final act at Seattle under the leadership of Dr. Fagan—namely—the approval of the federation by the B. C. Council. The newly formed Medical Council of Saskatchewan was doubtful owing to dissention sown by a member who had only most recently benefited himself by Reciprocity. Dr. Thomson and Dr. Munro, however, were ready to still further reason it out and if convinced of the benefit to the profession at large would help it forward. There is little doubt of unbiased minds seeing where the benefit comes to the West as a whole. Then came the questions of retroaction and standards. The two provinces Saskatchewan and British Columbia stood out for a high standard. At last a compromise was brought about and common understanding adopted. The The Manitoba College of Physicians and Surgeons adopted the same. Everything looked well for unity and progress in the West—when our directors at headquarters instead of rejoic-

ing at such unity being probable in one part of the Dominion—for reasons best known to themselves—started to attack the province that had been the hardest to get and make use-less all the work of last year which was distinctly for the welfare of the profession. What is the meaning of this continual attempt to retard the progress of the West medically? Obviously, the reason is not consideration for the western men. Let western men, especially surgeons, ask themselves a few questions. Why do so many patients requiring operations go to Rochester or the East? Is it not a fact that the idea is fostered that medical men in the West are far behind the East and the old country in skill? Are they? Or should they be? Is this state of affairs likely to improve while we allow ourselves to be viewed as a number of little petty provinces all scrapping with each other. Are we likely, as men, to be respected when we allow a few men who cannot have the real interest of the medical West at heart to ruthlessly attempt to upset the work of our own western leaders—work done by men of experience of many years in the West—men of reputation and skill and, last but not least, men who cannot possibly have any interest but that of the profession. Their reputations were made long ago. They have no self-interest to serve. Can it benefit the East to keep back, if possible, the progress of the West? Let every member of the profession consider these points seriously, for it is necessary. The course of action or state of inaction now will effect seriously in the future not only the western profession as a whole, but each individual member's welfare. Instead of the East trying to stop Western Federation, let it look to affairs in its own territory. Unity is certainly not there. Dissatisfaction is heard regarding many matters from the rank and file of the profession and in their independent press. Let them get Eastern Unity, and we will get Western Unity. Then we can join hands and have Dominion Unity.

A little education seems needed regarding this Rod-dick Bill which is constantly being waved before our eyes to hinder our march of progress. Few seem to know that

the truth is it will take years to become a workable factor. Naturally the West is not "put wise" to this as our Yankee friends say. We in the West are to sit still and wait till those years have passed. At that time, how can we know we shall have the same possibilities. "Wait a bits" don't find much success in the West in other lines of life, is it likely our profession will be an exception. Our councils have all taken up the question of Western Federation—have testified their approval of the same. The profession as a whole has asked for it. The goal desired is in sight. Have we not the grit to play the game to the finish and capture the goal for which we have expressed so often our desire. Let our watchwords be, Progress and Unity—A Western Medical Federation.

EXTRACTS.

Are We Becoming "Civilized" too Rapidly?

Our flustered educators, fearful lest some corner be left untilled in the ever-expanding field of knowledge, have decreed that the child shall study a multitude of subjects. To this end they have so scattered their effort that an inevitable lack of thoroughness results.

It was in the field of medicine and surgery, curiously enough, that our grandparents prophesied disaster. Thus when Simpson announced his discovery of chloroform, with its power to rob childbirth and surgery of most of their terrors, the thing was denounced from the pulpit by eminent divines, who predicted dire penalties to the race as the consequence of any effort to evade the terms of the curse under which man was driven from the Garden of Eden. Yet as a matter of fact, in this one field at least, it is difficult to see that our progress has cost us anything. Patent medicines, it is true, have had more than their fair innings in our day, but this is due solely to the greater facilities of advertising and distribution.

What, then, let us ask, has been the price of this century of unprecedented progress? To begin with, we have largely

lost the sense of wonder, we have grown distrustful of enthusiasm, and have become somewhat cynical and superficial withal. We skim the surface of life, without time to make our impressions our own. We are on the way to become a spiritually impoverished people, somewhat lacking in the generous qualities which can sustain a great friendship or a splendid dream. We are ultra-sophisticated, yet easily deluded. In the place of zest, appreciation, we have acquired unrest. We are like men who, while following the chase, have forgotten what is the quarry. If it is happiness we are pursuing, who knows but what she has doubled on her tracks and is now behind us! Yet we strain breathlessly forward, never pausing to ask, "To what purpose?"

Having become cogs in the great machine that we ourselves have builded, how are we to snatch opportunity for thought, for contemplation, for the leisurely savoring of life, amid the ceaseless whirring of the wheels? Is mediocrity to be the price the race must pay for its civilization? The modern schedule leaves no time for the secretion of those by-products of the soul which give joy and distinction to life. In the past our great men, men who have been leaders through their red-blooded humanity, through the mellow opulence of their personal human qualities, have come to us in the first place from the country. There, in their youth, at least, they had opened their souls to the great fundamental mysteries and sweetness which envelop life and sustain it. But if the race continues to cut itself off more and more from this sustaining communion, where at last will we turn for leaders, or even for men?—Craftsman, Jan., 1910.

Medicine As a Preparation For Other Careers.

So many great men have attained distinction in callings for which they received no youthful training that it is beginning to dawn upon educators that there is no way of determining beforehand in what direction a boy's talents are destined to develop. One-sided greatness, to be sure, generally shows itself very early. These cases, however, are mostly artistic geniuses or near-geniuses whose abilities are

dependent upon an exceptionally constituted brain, which of necessity shows its character very early. Idiocy is recognized a few months after birth, always in a few years, and similarly the brain with extraordinary development shows its peculiar functions as soon as the nervous tissue grows. Consequently, great artists almost invariably are more or less precocious. These exceptional cases are given so much publicity that it is generally believed that every brain shows its calibre in childhood, and every mother derives exquisite pleasure in day dreams of her baby's future greatness,—dreams based upon actions common to all children. It is not generally known that the higher mental faculties, which we may group under the general term "judgment," are of slow growth. This is in accordance with the biological law that the tissues last evolved in our progress from lower forms are the last to develop in our progress from youth to maturity. The slowness of the growth is rarely appreciated, in fact many a man does not show his powers until long after his thirtieth year, and a few do not attain the full strength of those late abilities until after forty.

Pedagogs seem to agree that the education of a boy who is soon to be thrown on his own resources, should be of an extremely practical nature; and, all over the world, trade schools are replacing the old-fashioned apprenticeship, so that the student can make a living as soon as he graduates. This plan is an economic necessity and its advocates acknowledge that boys frequently, if not always, select a trade for which they have no talent, and ignore the one for which they may subsequently develop superior ability. A certain amount of displacement is then avoidable; and as it may be too late to learn a new trade when the abilities develop, a percentage of men must pass through life without a chance to do their best.

In respect to the higher education, which of necessity can be given to only a small percentage of men, there is also a beginning agreement that it should be of a generalized nature, as a mere preparation for the technical training which comes considerably after twenty-one years of age. Since few men

can be supported in a prolonged unproductive period, there has long been a tendency to permit early specialization; but this elective system has been carried to such an extreme that there is a vigorous reaction on the ground that the general education is so neglected that the boy becomes a narrow specialist, who is inefficient by reason of his ignorance of allied branches and their relationships. Indeed, certain railroads, despairing of obtaining properly trained officials, have long been training their own young men in a species of higher grade apprenticeship. The raw material they use is the generally-educated college graduate. The technical schools are also realizing that specialization begins after graduation, and that a species of apprenticeship is a permanent necessity if the young man is to support himself while being trained for his life work.

Even in medical education the same plan has been suggested. In the near future we need not be surprised if each practicing physician will have one or more recent graduates as assistants, who will return for post-graduate special training as soon as their capabilities show themselves. Of course there will be more limited training for those who settle upon a narrow sphere of activity, somewhat of the nature of the dental courses and the proposed sanitary schools.

It is quite evident, then, why so many law and medical graduates do not practice their calling in later years,—they were misplaced. On the other hand, the distinction they have attained in new lines has raised the suspicion that their training really was of vital importance and gave them new views which were impossible to the narrowly trained. Perhaps success was due to the fact that they could see things in a new light, as in the cases of Huxley, Darwin, Francis Galton, Livingston and Mungo Park.

In Europe, law-making was formerly in the hands of those trained in statecraft, the rôle of the lawyer and judge being merely to learn and to apply the law. To a certain extent lawyers are still excluded from the making of the law; but in America the study itself is being more and more looked

upon as a preliminary for statesmanship. We have no colleges, like those of Oxford, whose purpose was really the training of ruling classes for the public service. Nevertheless, so many other men are eminently successful in statecraft, that it is already suspected that other training may be even more valuable than that based on Blackstone, and there is a movement towards the European system. Men with a broad general education, in which economics forms an important part, are being urged to enter public service, instead of narrowly trained lawyers.

Similarly the rôle of the medical college is being slowly changed. It took the place of the old apprenticeship and was designed to train practitioners; but the graduates are finding that the medical course fits them for other callings, scientific, political or business, in which medical knowledge is of extreme importance. We find physicians among the great explorers, the great statesmen, the great military leaders and the great business men. There is little doubt that their study of mankind has been a large factor in training abilities essentially non-medical. In Europe it is amazing what a number of physicians take an active part in public affairs, while in America it was formerly an article of medical faith for the doctor to keep out of politics. These facts should be taken to heart, for we must realize that many a student is utterly unfit to practice and will only find it out when too late. Besides, it is impossible for all graduates to make a living in an overcrowded profession, and some must seek other livelihood. Would it not be well to look upon a medical course as merely a foundation for post-graduate specialization, as a general practitioner, specialist, scientist or even a non-medical career? That is to say, the late-appearing mental qualities must be considered and students warned that it is not essential for them to continue in medicine to be successful and valuable members of society, if they subsequently develop greater ability in other lines. The graduate is not necessarily to be a practitioner, any more than a clerk is to become a merchant.

All colleges are now and then unjustly criticized because

great men so frequently arise from the uneducated mass, though it should have been known that the very few who get a university training are not possessed of all the brains in the world. In like manner, the medical schools come in for some attacks because they did not happen to have trained Pasteur and others who have added so much to the world's knowledge of medicine. In other words, we must expect that non-medical schools contain misplaced students who are destined to be of great value to us. It does not behoove us to reject the discoveries of extra-academical workers, nor should the geographers look askance at the work of such medical travellers as Livingston. In fact, there is a something connected with a good general medical education which peculiarly fits a man for every kind of work which can be classified with anthropology—the humanities,—even exploration and sociology. Statesmanship is merely a branch of anthropology after all, and it is no wonder that so many eminent statesmen are trained physicians.

In other words, medicine is the best possible preparation for serving society. The time is already here when men of means must take up public service as duty, instead of flitting away their lives on "society," "sport" and other things. The poor man can hardly find time to earn his own salt, let alone the duty of helping others. Why not then advise the rich to study medicine, not to practice it and take bread out of the mouths of professionals, but to fit them to careers in statecraft wherein their medical knowledge will be invaluable in devising laws increasing the efficiency and longevity of the workers? Congress should be at least one-eighth physicians, but it will never be such as long as medicine is looked upon as a means for poor men to make a living. Let the college doors be opened to embryo statesmen of wealth, who can afford to spend time working for humanity. Medicine is sure to become a necessary foundation for public service in many of its larger branches. Populations are now so dense that a knowledge of sanitation is essential for all law-makers, and nothing will suffice except the election or appointment of sanitarians

to positions of authority. So let the medical schools take heed of their duty to society, in addition to their past attitude of duty to the individual sick. Let them turn out statesmen skilled in prevention, in lieu of experts in cure. We are an essential part of civilized society and we must train the servants. The medical school which tries to train only practitioners and not preventers, is more of a curse than a blessing.

—Editorial—International Med. Journal, Jan., 1910.

VITAL STATISTICS,

Winnipeg, February 9th.

Typhoid	7	I
Scarlet Fever	66	I
Diphtheria	12	—
Measles	53	I
Tuberculosis	15	6
Mumps	2	—
Erysipelas	10	—
Whooping Cough	I	—
Chickenpox	13	—
	179	9

Vaccinations, 11.

MEDICAL NEWS.

In the District Court, Saskatchewan, Dr. Low, of Regina, sued Michael Lynch for \$220 for medical attendancē. Lynch, who tendered half the amount which was refused, counter-claimed for \$12,500 damages for negligence and lack of skill. Judgment was given the plaintiff.

The Vancouver Health Committee are considering the advisability of purchasing Boulder Island as a site for the isolation hospital.

Investigations in New York have come to the conclusion that instead of punishing some children for offences committed against the law, the wiser plan would be to send them to a hospital where they could be treated for the diseases that

were the cause of the bad behaviour. Dr. Schnapp, of Cornell Medical School, has conducted researches which have led to the adoption of this plan and by the beneficence of Mrs. Vanderbilt, sr., this important experiment will be tried. It is by caring for these children that they can be prevented from swelling the numbers of the criminal class and of adding to the list of degenerates.

A proposal has been made to erect a temporary trachoma hospital at Regina to provide accommodation for city cases pending the erection of the new municipal hospital.

Figures prepared by Toronto papers seem to show that infants born in New York have a better chance of living than those born in Toronto. The death rate of infants under one year in every thousand in New York is 144; in Toronto it is 155.

In Great Britain there are four people in every hundred over seventy years of age according to statistics. A nation containing so many old people cannot be decadent.

Professor Fraenkel, the German specialist on tuberculosis, says consumption forty years hence will have ceased to have any importance as a popular disease. This hopeful view Professor Fraenkel bases on statistics. Till 1886 32 out of 16,000 in Prussia died of consumption. Since then these figures have fallen to 21 in 10,000 in 1900, to 16.4 in 10,000 in 1908.

At the meeting of the Calgary Board of Health it was resolved that the city take over the isolation hospital and that it be placed under the management of the Board of Health.

Dr. George H. Stover, a Denver physician, has gone to Hawaii with the intention of making experiments at the leper colony at Molokai.

Mr. J. J. Dougan, Vancouver, Trustee of the B. C. School Management, attended the Manitoba School Conference in Winnipeg, and proposed the formation of a Western School Board Federation. His resolution was adopted and when Saskatchewan have their Association Meeting it is felt certain that a Western Educational Federation will be formed.

The meeting of the College of Physicians and Surgeons

of Manitoba took place on March 3rd, Dr. Milroy in the chair. Some interesting matters were taken up that showed that the end of the terms of the present College was to be very crowded with important work. Dr. Patterson's motion for a standard fee of \$125 remained and Dr. Roger's amendment was defeated. Dr. Thornton gave a discourse on his connection with the Roddick bill and Western Federation. The council adopted a resolution to get back their powers as examiners, givers of license and controllers of the standard of medical education. Dr. O'Erien brought forward a motion that the future applicants for license be compelled to pass the primary as well as the final examination. Dr. Gray gave notice of motion that in the future the College of Physicians and Surgeons should look after their own members and that the Attorney-General's Department should do all prosecuting of unlicensed men.

An association has been formed for the Study and Prevention of Infant Mortality in the States. The reduction of infant mortality is engaging the attention of every humanitarian and every economist. The Conference on Infant Mortality at New Haven last November has done much to bring the subject before the general public. This newly formed association has done more to a correct understanding of the causes operating in inducing infant mortality than anything else so far.

There is a movement in the States to bring out the dependence upon each other of physicians and pharmacists and to show that their interests are mutual.

At the annual meeting of the Tranquille Sanatorium for Tuberculosis, held at Victoria, it was shown that they had treated no less than 66 patients and at no time had there been a vacant bed. Out of 79 patients who had left since the opening, 20 had been cured. The following officers were then elected: Patrons, His Majesty King Edward, the Governor-General of Canada and the Lieutenant-Governor of British Columbia; Hon. President, Hon. James Dunsmuir; President, A. C. Flumerfelt; First Vice-President, R. Marpole; Second

Vice-President, A. J. Galletly; Treasurer, George Kirk; Secretary, Dr. Fagan (elected amid great applause); Auditor, J. A. Anderson; Directors, Mayor Taylor of Bancouver, M. P. Gordon, A. S. Barton, A. J. Dallain, J. A. Mara, R. E. Brett, Rev. W. Leslie Clay, Dr. A. P. Procter, Dr. F. T. Underhill, A. E. Planta, Dr. R. E. Walker, Chas. W. Hallamore, W. R. McGaw, Thomas Kilpatrick, and Dr. C. M. Kingston. Votes of thanks were passed to all those who have given their services in the work of the sanatorium. The meeting adjourned at a late hour.

The annual meeting of the McGill graduates was held on Friday afternoon. The new constitution recommended by the executive was adopted. The following officers were elected for the ensuing year: Hon. President, Dr. S. J. Tunstall; President, Dr. George Boggs; Vice-President, H. M. Lloyd, B. Sc.; Secretary-Treasurer, A. E. Foreman, B. Sc. The new executive will consist of Dr. Harry Ford, Dr. P. A. McLennan, Arthur Hill, B. A., B. Sc., Lemuel Robertson, M.A., Dr. Burnett, and W. O. Ogilvie, B.C.L. There are now in the society about two hundred members in good standing. In the evening over fifty members and guests sat down to a very pretty arranged repast in the Dutch Grill banquet hall. The floral decorations were in red and white, representing the university colors.

PERSONALS

Dr. and Mrs. L. N. MacKechnie are staying at Los Angeles.

Dr. and Mrs. Bell Irving of Vancouver have returned from their visit to California.

Dr. and Mrs. Copps Costello have settled in Calgary.

Dr. Kergin of Port Simpson is establishing a private hospital at Stewart on the Portland Canal.

Dr. and Mrs. Conway Cartwright have returned from their wedding trip and have settled in Vancouver.

Dr. Pope of Calgary has returned from a visit to Chicago and other cities.

Dr. and Mrs. Morris of Vernon have returned from their visit to California.

Dr. O'Brien, Dominion City, has sold his practice to Dr. Houston and intends practicing in future in Winnipeg.

Dr. Bracken, Reston, is visiting Winnipeg.

Dr. and Mrs. Harvey Smith have returned from the Bahamas.

Dr. John L. Todd of the Macdonald College of Agriculture, Ste. Anne de Bellevue, Que., has been awarded a gold medal by the Liverpool School of Tropical Medicine for his research work on the west coast of Africa in connection with "sleeping sickness."

Dr. Schilter of Gretna has moved to Steinbach.

Dr. Learmouth, High River, is doing post-graduate at Boston and other eastern cities.

Dr. and Mrs. Lindsay of Calgary have gone for a visit to Europe.

OBITUARY.

Dr. Mary Green, widely known as a physician and a lecturer on foods and whose fight for the privilege of entering the medical profession won her fame 45 years ago, died Feb. 9. She was 66 years old and was president of the American Household Economic Association, had charge of diet kitchens established by the Red Cross during the Spanish-American war and was the first woman admitted to membership in the New York Medical Association.

Dr. Richardson, the professor of Anatomy of the University of Toronto, died January 15 at the age of 87. Dr. Richardson began the study of medicine 1847 and became a most distinguished member of the profession, becoming professor of Anatomy, Toronto, in 1850.

BIRTHS.

SIMS—At the West End Hospital, Barclay Street, to Dr. and Mrs. Sims, of Port Moody, a daughter.

NOTICES.

Those of our readers who are interested in the various

forms of Physiologic Therapeutics (including Hydrotherapy, Electrotherapy, Massage, Hyperemia, etc.) will be glad to know that it is proposed to shortly inaugurate a new journal devoted solely to the delineation of the progress made in these lines of therapeutic endeavor.

The American Journal of Physiologic Therapeutics will be published bi-monthly, and the subscription price will be \$1.00 a year. The names and addresses of all interested physicians should be sent in, and those desirous of subscribing at once may send their remittance when writing. It is to be hoped that a wide-spread interest may be aroused in this matter. Write now, while this is fresh in your mind, to The American Journal of Physiologic Therapeutics, 72 Madison St., Chicago, Illinois.

CORRESPONDENCE.

Pilot Mound, Man., Feb. 21, 1910.

To the Editor of the W.C.M.J.

Dear Sir,—I venture to offer for the benefit of the readers of the W.C.M.J. the following positive statement by Sir Frederick Treves on the value of Radium in the treatment of Rodent ulcer. In view of the similar statements published by Sir Frederick Treves, I do not think this quotation from his private letter to me can be taken as any breach of confidence. Under date of Feb. 2, 1910, he writes as follows: "Radium will cure a Rodent Ulcer of almost any type with rapidity and certainty. The best thing to do, at this moment, is to send the patient to the Institute in Paris. The Radium Institute in London will not be opened for some months. It is possible to hire Radium from the Bank of Radium, but it is difficult to apply and actually dangerous in the hands of an inexperienced man. Moreover, the bank charges forty pounds sterling for the loan of a quite small plate." Hoping this hint may be of value to the West,

I am,
Yours truly,

H. M. SPEECHLY.

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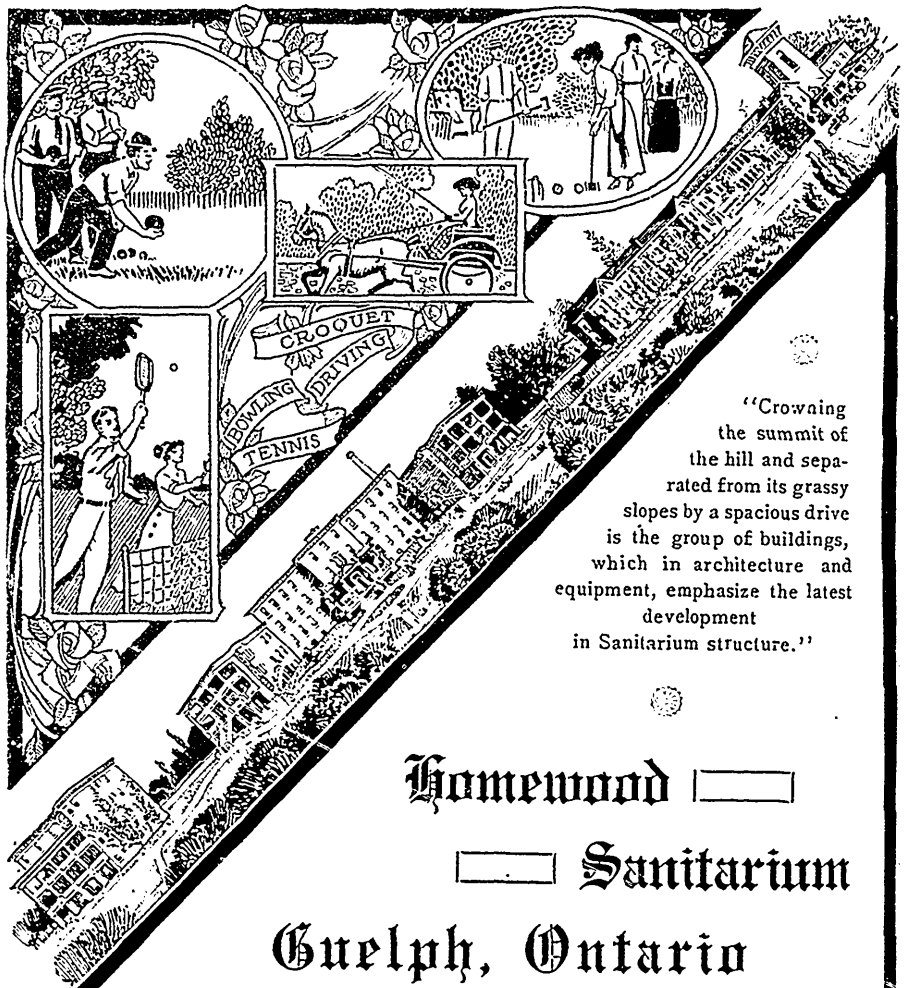
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Synopsis of Canadian North-West Homestead Regulations

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 Land 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 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 lands 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

N.B.—Unauthorized publication of this advertisement will not be paid for.

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Mark of Quality

The Canadian Rubber Co. of Montreal, Limited

Winnipeg

Regina

Calgary

The Food that Builds Bonnie Babies

Glaxo

An absolutely pure Infants' Food, prepared from Fresh Milk under strictly hygienic Conditions, with the addition of cream, fats, and lactose.

Since our last advertisement in this journal, Glaxo has been used by several prominent Winnipeg doctors to their great satisfaction, and to the satisfaction of their patients.

With the summer months approaching, bringing with them their many infantile troubles, it will be of interest to every medical man to know that Glaxo has here a special value, and that its use will obviate much of the trouble experienced with artificially raised infants in the past.

WE ASK EVERY PHYSICIAN WHO READS THIS ADVERTISEMENT

to interest himself in what he will find to be the best infants food that has ever come under his notice.

Samples will be sent free and postpaid to any doctor who will ask us for them.

Canadian Offices: 32 Empress Building, Winnipeg

Phone Main 9267

M-a n-i-t-o-b-a

We would draw the attention of our readers to the Infants Food advertised in this and the preceding issue under the name of Glaxo. Although this food has into the merits of this food, only been a comparatively short time on the Canadian market, it is being received with great favor, and in two of the points emphasized by the advertisers there is no doubt that it is deserving of the attention of the Medical Fraternity in general.

These two points are, its high percentage of fats, and the great ease with which it may be assimilated even by the weakest digestion.

We feel that any physician will be well repaid by an investigation

For the

Convalescent

No tonic can surpass that old pure beverage

DREWRY'S

Refined Ale

It soon tones up the system.

Try it!

E. L. DREWRY
Manufacturer
Winnipeg, Man.

Clubbing offer

We have made arrangements with the Journal of the American Medical Association, Chicago, to form a club and give the Western Canada Medical Journal and the Journal of the American Medical Association at \$6.50 per year, which gives you two journals for the price of one.

Journal of American Medical Association.....	\$6.50
Western Canada Medical Journal.....	2.00
	\$8.50

No one disputes the fact that Cod Liver Oil exerts a peculiar alterative effect not produced by any other fatty oil. There are a number of active medicinal principles in a good quality of oil, but few of these exist in the ordinary Cod Liver Oil as marketed.

GADUPHOS

contains all the active medicinal principles that are to be found in the best grades of Cod Liver Oil and Gaduphos contains a certain definite quantity of these principles.

Then too Gaduphos contains an exceptional proportion of true glycerophosphates.

Doesn't it seem to you that such a combination as Gaduphos could be and should be used liberally by you in your practice?

Frederick Stearns

WINDSOR
ONTARIO

& Co.

DETROIT
MICHIGAN

There have been many makes of antipneumococcic serums offered to the profession that have proved failures as far as real results were concerned.

Pneumolytic Serum is different

not only in the method of its production but in its nature and in its results.

Pneumolytic Serum is a polyvalent serum and a composite serum and it was not until we were absolutely certain that we could offer a really efficient serum to combat pneumonia that Pneumolytic Serum was placed on the market. Results have amply demonstrated the special efficiency of Pneumolytic Serum over all forms of Pneumonia.

Write us for literature.

**Frederick Stearns
and Company**

WINDSOR
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3-10

DETROIT
MICHIGAN

When making out you Prescriptions specify

GREEN'S PORT WINE

Endorsed everywhere by
the Medical Fraternity.

— Bottled by —

GREEN & COMPANY

311 Fort Street

PHONE MAIN 623


WINNIPEG

For Upwards of Forty Years
the use of

Fellows' Syrup of Hypophosphites

has been recommended by

The Leading Medical Specialists
in all Countries

Reject  Worthless Substitutes
Preparations "Just as Good"

Adrenalin Ampoules



AMPOULES OF

Adrenalin Chloride Solution, 1:10,000

(1 Cc. GLASS CONTAINERS)

FOR HYPODERMATIC INJECTION.

The most powerful of astringents and hemostatics, Adrenalin Chloride Solution lends itself to many practical uses. Since the time of its introduction it has been marketed in ounce vials, and of the strength of 1:1000. Experience has shown, however, that a weaker solution is much more frequently required than the "full strength"; and while it is generally an easy matter to dilute with water or normal saline solution, in certain emergencies an already fully diluted preparation is to be preferred. For hypodermatic injection the small hermetically-sealed package will be found of great convenience.

SOME INDICATIONS FOR THE HYPODERMATIC USE OF ADRENALIN CHLORIDE SOLUTION.

Shock	Postpartum hemorrhage
Cardiac and vasomotor asthenia	Asthma
Inaccessible hemorrhages	Osteomalacia
	Whooping-cough

DIRECTIONS—Break off the neck of the ampoule at the file-mark, as shown in the illustration. Use an ordinary hypodermatic syringe. Insert the point of the needle behind the shoulder of the ampoule—not to the bottom. (See cut.) Elevate the bottom of the ampoule as the piston of the syringe is withdrawn, and the contents can be removed to the last drop.

Marketed in boxes of 1 dozen.

KEEP A PACKAGE IN YOUR EMERGENCY CASE.

PARKE, DAVIS & COMPANY

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