

SEVENTH  
ANNUAL REPORT  
OF THE  
PROVINCIAL BOARD OF HEALTH  
FOR THE YEAR  
1899.

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HALIFAX, N. S.:  
COMMISSIONER OF PUBLIC WORKS AND MINES, QUEEN'S PRINTER.  
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## PROVINCIAL BOARD OF HEALTH OF NOVA SCOTIA.

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HON. G. H. MURRAY, *Premier and Provincial Secretary.*

HON. J. W. LONGLEY, *Attorney-General.*

HON. C. E. CHURCH, *Commissioner of Public Works and Mines.*

WM. H. MACDONALD, M. D., *Antigonish.*

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A. P. REID, M. D., *Middleton.*

W. H. HATTIE, M. D., *Superintendent Nova Scotia Hospital for Insane, Halifax.*

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*Chairman of Board.*—HON. G. H. MURRAY.

*Secretary*—DR. A. P. REID, *Middleton, Annapolis County, Nova Scotia.*

# PROVINCIAL BOARD OF HEALTH,

HALIFAX, NOVA SCOTIA, 1899.

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## SEVENTH ANNUAL REPORT.

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TO THE HON. G. H. MURRAY,

*Provincial Secretary,*

*Chairman of Provincial Board of Health.*

SIR:

I have the honor to submit the seventh annual report of the Provincial Board of Health.

The sanitary condition of the Province has been, as usual, favorable, judging from all the information I have received.

I am much indebted to the medical gentlemen who have been so kind as to send in the quarterly reports, but regret that there are so many that have not been able to comply.

Sanitation is a live issue in every civilized community, and we have much yet to do before we are abreast of our sister provinces in this regard. I will take the liberty of copying from a paper which I had the honor of reading before the Medical Society of this Province, at Truro, 5th July past, as it contains much that I would wish to report. It appeared in the "Maritime Medical News" for September.

## SANITARY PROGRESS.

To the ordinary superficial observer, sanitation appears to be to some extent a "fad," and even to some of the members of the profession it does not convey such a definite idea as its importance demands. Yet thanks to it we rarely have the people in civilized countries decimated by plague as did occur formerly, and does now when hygienic rules are neglected by the mass of the people, as in India for example, and within the memory of members of the profession it scarcely existed in an active form in the body politic.

Modern sanitation results from a definite pathological knowledge of recent date, for which we are indebted to Pasteur and his pupils in France, and the many talented minds that have been at work in Germany and England, as well as to careful observers and workers in other countries.

At one time, and even yet with many, the belief prevailed that an epidemic was a "visitation of God," that consumption was an inherited malady, and that disease generally was inherent in humanity, and but little modified by the acts or environment of the individual, except in so far as exposure to cold, too much or too little exertion, indulgence in the passions, and gross causes that the individual and not the body politic had under control. Under such conditions sanitation as we now know it was an impossibility.

Systematic hygiene was of slow growth. When Jenner discovered the method of controlling the ravages of small pox, and it was demonstrated that tape worm and measly pork were associated conditions under definite biological laws, new avenues of pathological research were opened up, and the end is not yet.

When the lines between chemical affinity and biology were matters of dispute, and materialistic theories in the hands of able men successfully combated for a time the law of life, *omne vivum ex ovo*, sanitation was work in the dark, but its march was rapid when the famous Pasteur demonstrated beyond the shadow of a doubt that any organic compound could be perfectly sterilized, and so remain no matter what chemical or physical conditions it was subjected to, that fermentation and putrefaction in every guise were biological, not chemical changes, and that *omne vivum ex ovo*—every living thing from an egg, seed or germ—was an unqualified fact, which no one now disputes. He incidentally opened up the whole field of bacteriology, which before his time was not only invisible, but held out no inducements for exploration, as chemistry appeared to cover the whole space.

Though chemistry has been shorn of its territory in this field, it has more than made up for it in other directions.

Thus we have a new science, bacteriology, which in a few years has leaped into prominence, and is destined to take in a scope so wide the boundaries of which cannot be surmised. It is a purely practical and utilitarian department of knowledge, and sanitation "a branch of medicine" is only one of many benefits it has given to the world, and it is our duty as a profession to supervise its continued development.

Yet sanitary regulations are amongst the oldest in the code of human laws. About 3500 years ago, 1500 B.C., history tells us of Moses the lawgiver, who promulgated laws on this as well as on other subjects, and strange to say he was not only thirty-five centuries, but, from the slow march of events, forty to fifty centuries ahead of his time and generation with all peoples except the Israelitish nation.

He is termed the inspired lawgiver, and the unprejudiced observer would concede the claim. Of many take one illustration—the exclusion of the flesh of the hog as an article of human food, for how otherwise could it be known that it was inimical to human health, for it is but of comparatively recent date that it has been demonstrated that the hog is peculiarly liable to harbor parasites tending to disease and death in all animals that use its flesh as food, unless it be cooked or prepared in a manner requiring more care than it is practical to always correctly give.

Many of the Mosaic laws are as yet inexplicable to science, as was that just referred to, but I doubt not that time will demonstrate their accuracy. A comment by a sufficiently accomplished gynaecologist on the many diseases peculiar to women and their probable modification under the Mosaic code would be very interesting reading. Moses as a sanitarian was, I fear, many centuries ahead of us to-day.

I do not desire to assume the role of advocate, apologist or defender of the Bible. It is not required. But I will simply present a few facts which I cannot harmonize. All shades of Christians assume that the Bible (old and new testament) is inspired and worthy of belief, and should be our guide through life, but what I cannot understand is why part is accepted and part ignored, especially that in reference to sanitation, and this the more when we consider the conditions under which it was promulgated together with the experience of the past thirty-five centuries. Moses was lawgiver and the person in authority over a people who had degenerated from their pristine standard, and it was his duty to elevate them to a high position. He took a race held in bondage—a nation of slaves, and we can assume that from this cause they were ignorant, diseased, immoral, irreligious and effeminate, whose highest ambition was "the flesh pots of Egypt," and the plan adopted was a model, perfect in its results, and in harmony with our

present knowledge as far as we can follow it. The plan was clearly outlined and then carried out.

The Israelites were perfectly quarantined in the desert, having no associations with other peoples, and those diseased were placed by themselves outside the camp and were prohibited from communication with the healthy. Every new case of disease was relegated beyond the camp, and as no doubt specific disease was most prevalent, prevention of contamination by associated domicile was necessary. He took forty years to accomplish a journey easily made in forty hours, and this was the secret of his success. Every individual that left Egypt, even himself, died before the entry into the promised land. Hence the new race was composed of individuals sprung from the best of the old stock, brought up under the best sanitary surroundings, trained and educated by himself and made to conform to very strict sanitary regulations still in force. So indelible was the mark thus made on the Israelitish nation that they stand alone of all the nations of antiquity in energy, virility and potency, though for centuries, and even now, subjected to conditions which would have obliterated any race not complying with their sanitary code. Many there are and were who fell from grace, as the pork eating Jews so called, but they disappear in time, and we need not hesitate to affirm that the race which carries out the Mosaic laws faithfully will continue strong and virile to the end of time. Many of these laws are as inexplicable at present as they have been in the past, but, judging from what has transpired, the future will explain and confirm their accuracy. A long argument took place lately as to the best method of slaughtering beef animals, the Jewish method or the ordinary. The weight of evidence rested with the Jewish side, the only counter balancing objection being the sentimental one of probably giving more pain to the animal by incision with the knife than the blow on the head, not appearing to consider the fact that some animals require many blows to bring them down but only one stroke with the knife.

The hog does not appear to appeal to the sentimental public, as he is always killed with a knife and his squeal passes unheeded.

Modern sanitation is the creation of a few years back, and statistics show splendid results in those countries that are up-to-date, so much so that an epidemic with serious results is looked on as not excusable on the part of those whose business it is to carry out sanitary laws.

In this province we are very poorly equipped. Health laws we have, good as far as they go, but practically obsolete, as there is no proper means of enforcing them. This should be remedied so that in any case of threatened epidemic, the whole province could be forewarned and precautions taken.

The municipal councils now appoint health officials, but from the best I can find out their duties are not even carried out perfunc-

torily. A health officer should have a special knowledge, but in Nova Scotia he only requires a sufficient number of votes, and there is reason to believe that the majority of those appointed are not desirous of the position, so that the practical carrying out of the health laws is a "myth." Now and then something happens that galvanizes into action for the time, but when the occasion passes off they drop back into the old corner and again fall asleep.

To illustrate one of our requirements, the Secretary of the Provincial Board of Health receives regular notification from the adjoining State and Provincial Boards of Health at any time that any epidemic appears, and regular notices of its progress and what is done for its restriction. Now we should have some one or more in every county to whom our Secretary of Provincial Board of Health could communicate such information, and who would be guided accordingly.

These officials should be medical men who should receive pay for their work and have the work done in a proper manner. It would be their duty also to advise the secretary of Provincial Board of Health of the presence of any epidemic in their section, so that others could be warned in time. They should also send quarterly reports to the Provincial Board of Health, giving the health statistics of their county as far as they could find out. There are some details wanted here, but there is no immediate necessity to occupy your time in this matter.

We now have an unprotected population that in case of an epidemic of small pox would suffer very severely. In the adjoining states and provinces small pox has been rife the past year and we were likely to have it imported. Our escape so far is purely accidental, and we have no right to anticipate continued immunity. It is only ordinary prudence to provide for this eventuality and thus mitigate the scourge when it comes, as come it will. I fear it will take an epidemic and the loss of thousands of lives before our province will waken up to the fact that we are behind civilized countries in this line of work and that we should "set our houses in order."

We had thirty years ago a statistical office for registration of marriages, births, deaths, etc., but since 1867 it has lapsed. This should be reestablished on modern lines.

The Provincial Board of Health has for the past two years tried to keep a record of the sanitary state of the province, but owing to the want of definite laws properly carried out, the result has not been such as could be desired. The Board also instituted a department of bacteriology which has been of service to the profession and the people, and it is desired to extend its usefulness.

Dairy herds in Nova Scotia as elsewhere are tuberculous, and the proper inspection of milk, particularly in towns, and butter and



cheese factories, as also the examination of flesh meat, is requisite. But these subjects have been so widely discussed and there is such general concensus of opinion, that there is no need of taking up your time on this subject. Tuberculosis is very prevalent in every form, and claims its thousands yearly in this province, but no systematic means exists either for its restriction or cure. How long is this to continue, and who should take the initiative?

Sanatoria for the treatment of consumption for those able and those unable to pay for their care demand immediate attention.

We not only want to care for recent cases of which from 60 to 90 per cent. are curable in from 3 to 30 months' treatment in special hospitals or sanatoria, but they must obtain their relief in the climate in which they intend to live. This fact is not widely enough known. A recovery in a foreign clime is apt to be followed by a relapse after return home.

The profession has always been aware that consumption in rare cases was curable, but exact knowledge in this particular has only developed in the last 30 or 40 years, and as well the principles that should guide in the care of the sick. For many centuries attempts have been made to cure it by medicine, and if newspaper advertisers were to be relied on not only no person should die, but there is no excuse for ignorance on their part. Yet in spite of all, from 10 to 14 out of every 100 deaths from all causes are due to this infectious and preventable malady, and so it will continue until changed methods are adopted, which are now well known and were first demonstrated by Dr. Herman Brehmer, of Germany, lately deceased. In special sanatoria from 60 to 70 and 80 and 90 per cent. of recoveries in recent cases can be expected, depending on the stage of the malady and the length of the residence under care (3 to 12 months.)

The treatment is hygienic. Open air life—climate and season not excepted, careful feeding, medical supervision of each case all the time, with confinement to bed when there is constitutional disturbance, abnormal temperature or heart's action, under the strictest discipline. No medicine is used except for accidental conditions.

It is an eminently infectious malady, and may cause the disease in those who are exposed to its virulent cause, the *tubercle bacillus*. Autoinfection during the progress of treatment and after apparent recovery is very possible, and hence each patient has to be so trained as to enable him or her to avoid contaminating others and as well himself or herself.

The theory that a special climate or latitude is necessary is not correct, but it is becoming an accepted fact that permanent cure or benefit must be obtained in the climate in which the patient designs to live, to avoid relapses.

Since all cases at one time are recent cases, it means that for want of proper conveniences or treatment 1000 people die every year in the prime of life in this province, who need not be thus removed. And these too often the active, the intelligent, the best of our people. How many homes are thus made desolate without sufficient cause, by the removal of the mother and home maker or the father and bread winner, and why should we allow this to continue when it is in our power as a people to prevent it? I do not think it is a stretch of the meaning of the word to say it is criminal neglect.

Until Koch discovered the cause of this malady it was often a question in recent cases whether or not it was tuberculosis. Thanks to him it can now be demonstrated beyond dispute by two methods—the microscopic and the tuberculin tests.

The establishment of the bacteriological department of the Provincial Board of Health gives to any one in the province, lay or professional, the means of satisfying himself or herself as to the probability of tuberculous infection of lungs. It takes time and skill to make the examination and a small fee of \$1 is charged.

Send a fresh sample of sputum in a small bottle (carefully done up) by mail to Dr. Hattie, Mount Hope, Dartmouth, and an answer will be at once sent after the examination is made.

If the bacillus be found the answer is positive and lets the person know that compliance with certain requirements is necessary for a return to health. If the answer be negative, after a time another sample of sputum should be sent, and if the response be again negative it is almost safe to assume that the dreaded disease is not present.

The tuberculin test is particularly reliable in cases where there are no objective symptoms, and has been for years in general and satisfactory use in suspected disease in the bovine race. The steps of this test I need not trespass on your patience with, requiring as it does the expert knowledge of the physician. So far it has been proved safe and reliable, and is gradually coming more into use as confidence in it is becoming established.

These tests give positive information at a period preceding the ordinary symptoms of ill health, and enables the sick person and the medical attendant to do good at the time when this can best be done.

The ordinary hospital and ordinary domicile are not adapted to the treatment of consumption as it should be carried out, and the public as well as the profession should know this fact.

The physician diagnoses tubercle and he tells the patient that a change must be made in the mode of life, etc., a trip to Colorado, Florida, etc., suggested. In too many cases it would be as well to

recommend the patient to go out on the street and pick up \$1,000 or \$2,000, put the family in the care of the state and let the business upon which there is dependance for a living close down.

But were the means forthcoming and the patient comes back improved, there is the fear of a relapse.

What the doctor should be able to do when the diagnosis is clear, is to say: "as soon as possible place yourself under the care of the sanatorium which is only distant a few hours by rail and within call by telephone with any part of the province. Arrange at least for three months' stay, which will cost you from \$100 to \$200, with a very fair prospect of cure and not much likelihood of relapse." In any recent case there will be improvement.

This for those able to pay their own way. For the very poor either the government or private beneficence should furnish the means, and this will come in time, but to my mind the private sanatorium must precede the public one in order that public opinion shall be educated up to the point when it will demand the means of relief for all.

Public and private water supply will every year be questions of increasing difficulty and the supply in either case should be regularly examined by a competent health officer.

The sewage problem is not solved, but this we know, the more dense the population, the greater liability to water and air contamination by defective sewage arrangements, and the greater necessity for inspection by competent officials who are independent of local influences.

Even on the farm with no neighbors to interfere we not infrequently find wells tainted by careless disposal of sewage and offal. This is generally due to a want of knowledge, and is apt to bring its own immediate punishment, and the attending physician in this case becomes the health officer, a duty he has performed for ages and he will continue to do so. But we want his knowledge disseminated, his duties systematized and his recommendations backed up by society, which in this province is called the government.

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### HEALTH OF THE PROVINCE.

Preventable or infectious disease is as usual prevalent, but chiefly in sporadic form; at times there were severe attacks of typhoid fever and diphtheria in several sections, and unless active measures be taken, these will increase from year to year, for as population increases the potable water supply becomes tainted in a corresponding ratio. In towns with a good water supply a very common

cause of disease will be removed, but the great majority of the population depend on the *old well*, and the older it is the worse it is likely to be.

The provincial health laws are good were they carried out, and every year it becomes more and more evident that an efficient, independent and paid health officer should be appointed in the counties and provincial towns, who should not only see that the laws are carried out, but would be able to advise in the varied conditions likely to arise.

My advice and assistance are often requested in cases of local epidemics, but my hands are tied because Clause 9 of Chap. 12 of Acts of 1893 does not permit the Provincial Board of Health to take action except where the local board fails to act and some one makes complaint, so that practically it goes by default and infractions of the law are the rule. Even when an effort is made, the local health board puts the works thus devolving on the overseers of the poor (as the sick are very often very poor) and these shift the responsibility on the health overseers, and nothing is done. A local health officer with sufficient power, who knew his business, could easily regulate matters, but this would only be one of his many duties.

The subjoined letter from Dr. Sponagle will show how inoperative our health laws are, and I do not know a medical man in the province who would not subscribe to all that Dr. S. says. These opinions are of most value because medical men are most conversant with our defective system owing to their daily lines of work.

MIDDLETON, N. S., Sept. 10th, 1899

DR. A. P. REID,

*Sec'y. Prov. Bd. Health.*

MY DEAR SIR,—I may say to your enquiry, as to my experience of the workings of local boards of health, that it has not been entirely satisfactory.

On several occasions, when diphtheria has been in the neighborhood, and the proper authorities were notified, either no notice was taken of it, or else action was so slow as to make the law almost a dead letter. As far as I know scarlet fever is never dealt with as the law directs. In thus giving my own personal experience, I am inclined to think the system rather than individual members of local health boards is to blame. In the territory over which I travel there are four local boards, the members of which are appointed yearly by the respective ward councillors, and usually without the knowledge or consent of the parties themselves. Very likely the first intimation is a call to act at once officially, and without previous knowledge or experience, how are they to be supposed to act sufficiently? These gentlemen are in a most unenviable position, and might very properly refuse to act. Two suggestions occur to me—either a properly

qualified health inspector for a part or whole of each municipality, or else the government provide all local boards with short rules as to their duties, and what they should do if called on.

Yours very truly,

J. A. SPONAGLE.

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#### SEWERAGE CONTAMINATION.

The question of the disposal of sewerage and the contamination of streams and water courses ought to be considered and very definite regulations laid down. This would come directly under the cognizance of this board and does not require special legislation.

The subjoined letters will explain the necessity. These were answered as well as could be, as I had no authority to visit the localities and were in so far satisfactory to the the applicants :

BADDECK, C. B., July, 1st, 1899.

DEAR SIR,—As secretary of street commissioners of Baddeck, the question of the best disposal of sink and chamber water very often presents itself. To run this water into the open street drains is vile and yet nothing better is known. I am no expert in this, but the Commissioners and Board of Health have wrestled with the problem hitherto without benefit.

Somewhere I have read of blind sinks, that is a pit dug in the earth about 8 ft. deep and 6 or 8 ft. in diameter and filled with large loose stone. Into this is run the refuse sink water with no extra water to flush it. A small outlet near the surface by an under-drain is provided for any overflows. The expectation is that the filth in the water will lose itself in the adjacent soil. The top of this pit is covered with earth and sod and is supposed to be permanent

Would it not be well if your board would give to the public the results of your practical knowledge on this important question of safe disposal of slops. A printed circular would be of value. In the meantime if you have anything at hand in the nature of information I would be glad of it.

Very truly yours,

H. PERCY BLANCHARD.

DR. A. P. REID,

*Sec. Provincial Board of Health,*

*Middleton, Annapolis Co.*

EEL BROOK, N. S., Oct. 30, 1899.

A. P. REID, Esq., M. D., &c.

DEAR SIR,—Three years ago a drain was dug and built through our cemetery here about 4 to 6 feet deep, roughly walled and covered with stones and earth. The drain is about 18 x 24 inches in diameter and about 90 yards long, and opens right on the highway. During the rainy season there is quite a flow of slimy matter running from it and spreading below to the river. The grass, when it runs, grows quite rank and the cows which in summer are often let loose feed on it and graze it to the ground, which in a drought is dry and dirty. Corpses are buried quite close on both sides of the drain. There is an unsupportable stench from the mouth of that drain during the hot season.

For a year or so sores of all sorts began to appear among the people; uncommon sore throat, typhoid fever, and finally what looks like diphtheria broke out in a certain circuit from the drain. We have suspected that the drain was the cause of all the sudden sickness. Thinking so myself, I have taken some of the dirt from the mouth of the drain and put it in a vial. No. 1 was taken on 27th inst. at 4 p. m., and before corking I put in it a piece of clean raw beef. It looks now covered with a grayish substance, looking much like the exudation on the tonsils of diphtheria. No. 2 contains the dirt taken this 30th inst. at 3 p. m., and No. 3, water as it flowed at the mouth of the drain. I take upon myself to send these samples to you for test. If *dangerous bacilli* are found I must put the case before the local board of health to enforce the closing of the drain which is of no use whatever to the cemetery.

About two weeks ago Dr. Farish, of Yarmouth, got from a patient here a culture supposed to be diphtheritic, to send to you, and he was to let me know the result. Did he send it, and if he did what was the verdict? I hope you will test these cases I send, and let me know as soon as possible what was found.

Yours very truly,

A. P. LANDRY, M. D.

#### VITAL STATISTICS.

In other places and at various times I have reported on the necessity for carrying out an efficient system of vital statistics.

Clause 9 of Chap. 12 of Acts of 1893, *inter alia*, says: "They (the Board) shall make a special study of such vital statistics

of the province as are available, and shall endeavor to make an intelligent and profitable use of records of death and of sickness among the people; they shall make sanitary investigations and enquiries respecting causes of disease and especially of epidemics; the causes of mortality and the effects of localities, employment, conditions, habits, and other circumstances upon the health of the people; they shall make such suggestions as to the prevention and introduction of contagious and infectious diseases as they shall deem most effective and proper, and as will prevent and limit as far as possible the rise and spread of disease; they shall inquire into the measures which are being taken by local boards for the limitation of any existing dangerous, contagious or infectious disease, through powers conferred upon said local boards by the Acts of the Province, &c.

This very necessary and common sense Act is a dead letter, because there are no "vital statistics of the province" available, and there are no "records of death and sickness among the people."

The rest of the quotation assumes that it is the duty of some one to make *investigation* and *enquiries* respecting causes of disease, mortality, &c., and it is most desirable that this be carried out. The Secretary has in various ways tried to carry out these instructions, but has been unable to do so, because he can get no reports from the local boards of health. He has sent forms over the province to be filled out with no expense and a minimum of trouble, but the result is not satisfactory, although his thanks are freely given to those who have aided without fee or reward as far as was in their power.

Hence to carry out this duty, a reliable official in each county should be appointed, who should be paid for doing this work and doing it efficiently; while at the same time he could carry out the work of collecting and arranging the vital statistics of his district, and report to the Secretary of this Board. He could fill the place of health inspector as contemplated in the health acts, and as well be local adviser to the local Board of Health of his district.

There are many details that need not be mentioned in this report, and special legislation is necessary to fill up the voids in the present acts, and to provide means for carrying out the work. This subject has been referred to in preceding part of this report.

In last year's report I referred to two diseases very prevalent and very fatal, to one of which sufficient attention has not been given.

#### TUBERCULOSIS AND CANCER.

Of the essential cause of cancer we know so little that we can only adopt the ordinary methods of treatment which experience has

proved to be of value. But it is very different with tuberculosis, of which the so-called *consumption* is only one of many manifestations.

Until a very recent date it was assumed to be in great part an hereditary disease—a malady peculiar to certain families and constitutions, and hence not amenable to ordinary sanitary regulations. Now it is generally accepted that such is not the case.

A weakness of constitution that renders families and individuals more pronet han others to this malady may be and often is constitutional—they are less able to withstand the contagion of tuberculosis (or any other contagion) than those more robust. But the disease tuberculosis is a special entity that is quite as specific and contagious as are the generally accepted infectious maladies—but much more dangerous, because more fatal owing to the fact that it is more insidious, giving the patient less chance to either ward it off or adopt proper treatment when attacked, because it too often reaches the dangerous stage before any sufficient warning of its presence is given.

Small pox, diphtheria, and such diseases will, in a few days after infection, cause such pronounced symptoms that means of relief are at once resorted to, and of late years, with most favorable results.

Tubercle, on the other hand, will enter and play havoc with the lungs, glands, bones, kidney, brain, etc., to such an extent that too often the attempt at relief comes too late to be of service to the patient. Hence it is supremely advisable that the best known means be taken to prevent its spread.

It is needless for me to take up space to discuss the desirability of adopting means to relieve the community of this scourge, or to try to explain the history and cause of consumption, for most civilized people—thanks to the very general distribution of knowledge—have or should have correct general ideas on the subject.

It would, I think, be of more avail to detail the practice and sanitary regulations which our latest experience shews to be the best, and this the more because scientifically there is no doubt but that it is possible not only to prevent tuberculosis, but to greatly relieve 90 per cent. of those affected, and practically cure from 20 to 80 per cent. of those who adopt correct treatment at a sufficiently early stage of the malady.

The following resolution of the “National Board of Health of North America,” gives the latest and best recommendations on this subject:

“The chair appointed Drs. Bryce, Baker and Swarts, who, in due time, presented the following resolution, which was, on motion, adopted.



“*Whereas*, It is the unanimous voice of the Conference of State and Provincial Boards of Health of North America, that since tuberculosis, which causes on this continent more deaths than all other contagious diseases together, is now recognized by all scientific and medical authorities as both curable and preventable; and

“*Whereas*, Since the onset of the disease depends especially upon hereditary weakness, and on malnutrition induced by overcrowding, bad ventilation, and over pressure in school, social and commercial life; and

“*Whereas*, Since the presence in the homes of the poor of so many cases of this chronic disease means about certain death to the patient, and probable infection of other members of the family; be it therefore

“*Resolved*: That this conference does publish, and instruct the Secretary to forward copies of these resolutions to the Legislatures, Departments of Education, and Municipal Conferences, urging upon them the imperative need of:

“1. Having all schools and colleges placed under medical supervision with regard to ventilation, over crowding and over pressure in studies.

“2. Having all hotels, boarding houses and workshops where consumptives may be employed placed under municipal supervision and inspection.

“3. Urging all state legislatures to devote public funds, and encouraging private philanthropy in the establishment of homes or sanatoria in one or more counties or districts of the several States and Provinces to which patients may be sent early, either at their own or municipal expense, and under proper regulations be encouraged to remain therein until recovery shall have taken place, while at the same time they shall have prevented the continuance of centres of infection in their homes.”

The Halifax Branch of British Medical Association is strongly in accord with the preceding resolutions and have appointed a committee to further the object.

The following abstract from the U. S. Consular reports will give the latest official *resume* of the present state of our knowledge on this subject:

FRANCE.

*Precautions against tuberculosis.*

[From advance sheets Consular Reports, No. 558, Oct. 27th, 1899.]

In accordance with instructions from the Department, Consul Covert, of Lyons, under date of September 13, 1899, transmits the

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following translation of the report of the league for the prevention of tuberculosis for 1898 :

For every six persons, in this country, at least one dies of consumption. Of the 850,000 deaths that occur every year in France, over 140,000 are caused by pulmonary tuberculosis or phthisis, and this number, instead of decreasing, goes on augmenting every year. Hardly a family but pays to it a sad tribute. No disease, no scourge, can be compared to tuberculosis, so far as the number of the victims is concerned. All epidemic and contagious diseases combined—typhoid, varioloid, scarlatina, measles, diphtheria, cholera, etc.—do not cause half as many deaths.

We would then be acting like madmen if, knowing the means to diminish the ravages of this most terrible of our enemies, we did not as physicians make them known to the public; and if, knowing that tuberculosis may be transmitted from man to man and from animals to men, we knew means by which such transmission might be prevented or limited, we would be grossly culpable if we failed to make known such preventive measures. Science is to-day possessed of a knowledge of the means of diminishing the ravages of tuberculosis.

It is known that in the immense majority of cases a consumptive does not possess the germs of that disease at birth.

It is known, thanks to Villemin, that the greater number of the 140,000 consumptives who die yearly in France have caught the disease either in breathing the air charged with the germs of tuberculosis or, less often, by eating food which may accidentally contain those germs.

It is known that these germs of tuberculosis (*bacilles de Koch*), are spread by consumptives around them, each patient becoming, by his expectoration, a center of emission of these infected particles.

It is known that by certain simple precautions it is possible to destroy the greater part of these germs that are scattered through the atmosphere, and consequently, to prevent the greater number of cases of consumption.

It is known that contact with the consumptive is in no sense dangerous; that neither his person nor his breath is poisonous; that one can talk with him for hours together, inhale his breath, live with him, sleep with him, give him the most constant care and attention, without running any serious risk if certain precautions are taken, the principal one being to clean up his expectoration and not to delay destroying it until it has become dry and been taken up in the atmosphere.

It is known that by extreme cleanliness we not only prevent the patient from becoming dangerous to others, but that we do him a

a great service, for he is prevented from re-infecting himself and from destroying the beneficial effects of treatment which would often be successful if these precautions were rigorously enforced.

Therefore, the congress for the study of tuberculosis, where all the specialists of that disease were assembled, has issued a set of instructions to teach the public how to prevent the spread of the disease.

#### TUBERCULOSIS INSTRUCTIONS.

Tuberculosis is, of all diseases, that which has the most victims. In large cities they make up from one-fourth to one-seventh of the mortality.

To explain this high figure, it must be understood that pulmonary phthisis is not the only manifestation of tuberculosis, as is erroneously believed. In fact, many cases of bronchial troubles, of pleurisy, of meningitis, of peritonitis, enteritis, of osseous and joint-lesions, cold abscesses, etc., are of the same nature.

Tuberculosis is an infectious, parasitic disease, caused by microbes; but it can be caught by a healthy person from a patient only under special conditions, which we will state.

Besides hereditary transmission, the tuberculosis microbe enters the human organism by the air in breathing, through the digestive organs in eating, through the skin by stings, scratches, sores, wounds, ulcers, etc.

The most frequent and the most dreadful source of contagion lies in the expectoration of consumptive patients. Almost harmless while in a liquid condition, it becomes dangerous when reduced to powder. It assumes that form often when spat upon the ground, the floor, or upon a wall; when it falls on clothing, bedclothes or sheets, curtains, handkerchiefs, napkins, etc.

When dried and in powder, it is stirred by the dust cloth, the broom, brush, or carpet beater. This dust, suspended in the air, enters the respiratory organs, falls upon portions of the body, upon objects used in cooking, plates, and dishes, and thus becomes a permanent danger to persons sojourning in the contaminated atmosphere. The germs of contagion also exist in the evacuations of the patients, produced either by saliva swallowed, or by intestinal lesions so common in such diseases.

It is indispensable therefore—

To take the most careful precautions regarding the expectoration of consumptives. It should always be ejected into porcelain or glass spittoons containing a certain quantity of liquid, and not in

such matter as sawdust, bran, sand, or ashes. The handkerchief, upon which the patient should wipe his lips only and upon which he should never spit, should be renewed every day.

The contents of the spittoons should be mixed with sawdust or some other combustible and burned, or at least emptied into the water-closet. If emptied into a yard they may tuberculize fowls or allow microbes to spread through the air. No known disinfectant is powerful enough to rapidly destroy the tuberculous microbes contained in saliva; therefore the contents of spittoons should be destroyed by boiling or thrown into closets. At the same time there should be poured into the closets a solution of chloride of lime. It would be safer to mix the saliva with sawdust and burn it.

Spittoons should be used, not only in hospitals and private houses, but also in depots, barracks, and all places for public meetings.

These precautions should be taken in reference to all diseases that occasion much expectoration, because pneumonia, inflammation of the chest, congestion of the lungs, measles, whooping cough, catarrh, certain forms of bronchitis, laryngitis, etc., may be communicated by saliva dried and converted into dust.

Clothes soiled by a consumptive patient should be left some time in boiling water before being washed.

Avoid sleeping in a room with a consumptive patient, and remain in it as little as possible, unless the above-mentioned precautions are taken in regard to saliva.

Rooms in hotels, watering places, etc., occupied by consumptives should be so furnished and carpeted that disinfection can be readily accomplished after the departure of a patient.

After the death of a consumptive, the place inhabited by him should be carefully disinfected and thoroughly aired. New tenants should see that these precautions are taken.

After the death of a consumptive, all his clothing and bed linen should be well washed before being used, and the room thoroughly disinfected by sulphur vapor and washed with chloride-of-lime water.

In private as well as public houses, carriages, omnibuses, hotels, theaters, etc., sweeping ought to be replaced by washing with a cloth wet with some antiseptic solution.

The parasite of this disease may also be found in beef (above all, cow beef), poultry, rabbits, and milk. The latter should be boiled, or, better still, sterilized. Milk is sterilized by placing the

vessel containing it in a tin pail full of water and letting it boil forty-five minutes. The habit of drinking blood at slaughterhouses is dangerous and without any salutary results.

Some persons have a tendency to consumption and should be especially careful; for instance, those whose relatives have died from consumption or who are feeble from privations. The abuse of alcoholic liquors is particularly favorable to consumption. Over 2,000 infants under two years of age die annually of consumption in Paris.

This disease is curable, where it has not advanced too far, for those who are willing to submit to long months and sometimes years of treatment and repose in special sanitariums.

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#### MODE OF PROPAGATION OF TUBERCULOSIS.

Pathologists generally agree that tubercular infection usually gains access to the human body by one of two routes; the lungs and the alimentary canal.

In the case of adults it is generally accepted that tainted air is the most common cause, owing to the great prevalence of phthisis, every patient being a focus for the distribution of infection to the air in his neighborhood, particularly through the sputum that is so freely distributed in his or her vicinity.

In children, tubercle of the glands of the abdomen and lymphatic glands generally, as well as of the bones and joints, would go to shew that the alimentary tract is the more common route of access in the young.

Milk is a very general diet, and milk is very often impure—since, as is now well known, tuberculous cows are very numerous. There is scarcely a herd that is free from the disease—hence we have tuberculous milk. Out of 93 samples of milk examined at Manchester, (Eng.,) 18 were found to be tuberculous.

This does not mean that milk is a less valuable food, but it does mean that the use of tuberculous (or any kind of unclean) milk should be prevented.

This can be done if well known means be adopted. It is not easy to sterilize milk for general distribution—though it could be done by the user, if in doubt of the sample, by boiling.

It is possible by systematic inspection of the herds and regulation of the milk supply to prevent the distribution of tainted milk.

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The proper ventilation and heating of domiciles, work-rooms, school-rooms, assembly-rooms, etc., is specially referred to in the recommendations (supra) of National Board of Health.

#### TREATMENT.

As to the treatment of tuberculosis, it is a very generally accepted fact that there is no specific other than those means which improve the general health, of which food and medicine, though important, are practically useless unless associated with other details of regimen carried out under the strict personal supervision of the medical adviser, conveniences for which are not easily obtained in an ordinary home, even of those who are "well-to-do," and much less so with the poor.

Yet it is possible to provide for each class, and in the near future this will be done in all civilized communities, and I would suggest that this Province take steps in this direction.

About 40 years ago Dr. Hermann Brehmer, of Germany, the founder of sanatorium treatment for consumption in a systematic way, on the assumption that it was curable, was denounced as a charlatan. Some of his ideas have been proved erroneous—as "the necessity for carrying out the treatment in a district itself immune from the disease," and "the dogmatic requirement of a definite minimum altitude above sea level, varying with the latitude." But his advice "against placing sanatoria in or near centres of life and traffic," or "in a health resort frequented by other invalids and pleasure seekers," "the need of strict supervision," "carefully graduated exercise as well as for rest," cannot be disregarded.

Sanatoria for consumptives were recommended years ago by the Committee on Humane Institutions, under the chairmanship of Dr. Bethune, but no steps have been taken to work out the idea, no doubt due to the difficulty of knowing how best to begin.

At present sanatorium is another name for "open air" or hygienic treatment of consumption, and is now in use with most beneficial results in the United Kingdom, Germany, France, the United States and even in South Africa, though so recently and sparsely populated.

This treatment is not new, for it is specially recommended by Hippocrates long before our era. He recommended the open air treatment living in Egypt, but it is found that a sunny or warm climate, though desirable, is not necessary—pure air at a distance from cities or factories will fill the bill, and that consumptives can improve in the open air in a winter climate under proper medical care and a generous diet. For the well-to-do these establishments have been very successful. M. Knop gives the result of treatment, in 15 private sanatoria in different countries, of 4,500 patients in

the past 10 years. After a mean duration of three months' treatment, 630 were absolutely cured, and 630 were relatively cured—that is, able to work, with every appearance of good health, though with slight physical signs of their malady; the improved were 1,890, and of the unimproved or died the number was 1,350.

Dr. Brehmer, of Garbersdorf, reports that of 5,000 cases, 27.8 per cent. in the first stage were cured, and 6.83 of those in the second, while in addition 31 per cent. of those in first and 14.6 per cent. of those in second stage were nearly cured. One-fourth of the consumptives of the well-to-do classes were either cured or able to return to work with every appearance of health.

Of those who left the sanatoria as relatively cured in 1876, 59 per cent. were in apparent thorough good health 14 years after.

In order to test the persistence of cure, Dr. Deitweiler sent 99 letters at the end of 10 years to those of the 132 cured at Frankenstein whose addresses were known, and 96 replies were received. 11 had died of disease other than tubercle, 12 had relapses of short duration, and 3 were still ill. Of the 72 cases who remained perfectly well over from 3 to 9 years, four only required a second visit to the sanatorium. All the others had continued at work since their discharge.

Sanatoria for the poor is a subject of the greatest moment, for, as a French writer says, "there are two kinds of consumption—that of the rich, which is sometimes cured, and that of the poor, which is never cured." Since 1859 sanatoria have existed in Germany, but it is only since 1892 that institutions have been erected for the poorer classes that are consumptive. They are now erected in Scotland, Switzerland, Russia, France and the United States. It is estimated that very shortly there will be over 100 sanatoria available for rich and poor.

The present aggregation of large numbers of consumptives in hospital and infirmaries is not treatment.

There are 3 courses open :

1st. To do as we are doing until . . . . .

2nd. The formation of special wards, verandas and dietary in our hospitals, with special regulations. Much could be done in this way to relieve the general wards of a most undesirable population, who are a menace to all in their vicinity, and who do not receive as much benefit as they should while resident in the hospital.

3rd. Special sanatoria, founded in the most favorable sites, where patients could be sent in the earliest stages.

It is useless to send hopeless cases to the sanatoria, and it is cruel to tamper with earlier cases that could be cured by proper treatment, which cannot be obtained in the ordinary domicile, especially in a city.

The principles of treatment are :

- 1st. Not too many congregated in the one institution ; under 50.
- 2nd. Removal from outside association and so called recreation—amusements, visits of friends and strangers. Ennui is not to be feared—quiet and rest are needed.
- 3rd. As far as possible, continual living in fresh air, no matter what the temperature. Colds and chills are not to be feared under proper care.
- 4th. The healthy site of the institution, as far as possible from human habitation and in purest air.
- 5th. The amount of exercise regulated by the condition of the lung and the patient's condition.
- 6th. Absolute rest when temperature is above normal to any appreciable extent.
- 7th. Great attention paid to nourishment.
- 8th. The absence of any unnecessary furniture in the sleeping rooms (open to the air at all seasons) or elsewhere to catch dust.
- 9th. Continuous medical supervision.
- 10th. Exceedingly strict discipline.

The Victoria Hospital Sanitarium, Edinburgh, was the first institution in the United Kingdom for the gratuitous treatment of consumption, and so far is the only one.

Dr. R. W. Phillip, Physician to the Victoria Hospital, Edinburgh, gives a very interesting report of its work, and I will make a few abstracts :

“The accommodation is limited to 15 patients—7 male and 8 female. Some rooms contain three patients, some two, some one. There is 1,000 cubic feet capacity per patient. Each room has at least one large window, which is constantly open day and night. The windows have never been shut day or night since the hospital was opened. This Hospital Sanitarium has been greatly enlarged the past year.

A uniform temperature of 60° F. is demanded, which is obtained by open grates.



The furniture of the rooms is of the simplest; floors plain and polished; the bedsteads are open spring mattress, covered by a light hair mattress, and bedclothing as little as is compatible with comfort.

There is an outdoor department, situated in the heart of Edinburgh, which affords a central office, where patients are received and treated from day to day, and where suitable patients are selected for hospital residence.

There has been recorded a relative increase in the number of early cases which present themselves, and a corresponding diminution of hopeless ones.

By daily or frequent visits to the institution patients are induced to lay aside their fear of going about, and are taught by constant reiteration the principles of the open air system.

Although the *clientele* of this department is very numerous and poor, it used to seem marvellous in the earlier days that untoward accidents were so infrequent of occurrence in relation to these visits to the institution in all weathers.

The experience of the outdoor department has throughout afforded corroborative evidence of the value of open air treatment. At the same time the patients are instructed in respect to preventive measures.

For many years the following rules have been distributed at the out patient department :

RULES FOR CONSUMPTIVE PATIENTS, AND THOSE LOOKING AFTER THEM.

1. Consumption is a communicable disease; it may pass from person to person; it may pass from one lung to another, or from one organ to another.

2. The chief source of infection is the expectoration of the consumptive. The great danger lies in the drying of the expectoration and the blowing about of the dried infectious material.

3. The spread of consumption can be largely prevented. *If the succeeding directions be obeyed there need be no serious danger in ordinary intercourse with patients. The breath of consumptives is not directly infectious.*

4. The patient should expectorate into a jar or cup containing a tablespoonful of carbolic acid solution (1 to 20) or other disinfectant.

5. The vessel should be changed once in 12 hours or oftener. It should be cleansed by being filled up with boiling water. The combined contents should be poured down the W. C. The vessel should then be washed with boiling water.

6. When the patient is out of doors he should carry a pocket spitting flask, to be used and cleansed like the jar. The patient should never spit on the street.

7. The patients should not use handkerchiefs for expectoration. If this ever has to be done the handkerchief should be of inexpensive material, that it may be burned after use. Squares of rag or paper, which may be used for convenience, should be similarly treated.

8. The expectoration should on no account be swallowed, for thereby the disease may pass to other organs.

9. Consumptive patients should avoid kissing.

10. Consumptive mothers should not suckle.

11. If expectoration has been accidentally deposited on the floor or other object, it should be wiped up and burned, and the surface of the object cleansed with strong antiseptic.

12. Rooms which have been long occupied by a consumptive patient should before occupation by some one else be carefully disinfected, as after other infectious diseases.

13. FRESH AIR is the food of the lungs, therefore see that the lungs be not starved.

A. By day—The patient should occupy as airy a room as possible. It must be scrupulously dry and preferably removed from the ground. The window should be freely open. When able the patient should be out of doors once or several times during the day. He must avoid over effort and damp or chill, which would counteract the benefit.

B. By night—He should sleep alone. The bedroom should be large and airy. The window should be kept open less or more owing to the season."

Since it has been proven that there is no need of expatriation for the relief and cure of consumption, an organized effort should be made in this Province to relieve this unfortunate class.

The experience of the Edinburgh Victoria Hospital points out how this may be done.

## THE BACTERIOLOGICAL DEPARTMENT.

The subjoined report of the Bacteriologist will show in what way the Provincial Board of Health is turning our latest knowledge to account in promoting the public health, by furnishing reliable information to the individual—lay and professional—and as time goes on it will prove of incalculable service.

The thanks of the Province are due to Dr. W. H. Hattie, for the time, labor and skill that he has devoted to his department, and also my individual thanks to him for the pleasure derived from association with him.

To you, sir, my thanks are also due for the courtesy shown to one who was no doubt importunate, and as well for the encouragement given, and prospect of continued favor in trying to work up financial interest in aid of the suffering.

Respectfully submitted,

A. P. REID,

*Secretary Prov. Board of Health.*

Middleton, Ann. Co., N. S., Sept. 30th, 1899.

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## BACTERIOLOGIST'S REPORT.

A. P. REID, ESQ., M. D., etc.,

*Secretary Provincial Board of Health.*

DEAR SIR:—

Apart from the statistics of the work accomplished by the laboratory during the year just ending, there is little of special note to report. As the laboratory is simply intended to furnish assistance to physicians in the diagnosis of doubtful cases, and no provision is made for original investigation, it cannot be expected that the character of the work will vary much from year to year.

We have been tasked during the past twelve months with the examination of thirty-two specimens of sputum for the tubercle bacillus, fifty-seven swabs for the diphtheria bacillus, and twenty-nine specimens of blood for the typhoid reaction. In addition we have examined and reported upon several tumours and other morbid tissues sent to us by physicians who were in doubt as to the nature of the conditions which they represented. We have been gratified by the receipt of several letters from medical men expressing appreciation of the services rendered by our laboratory.

## TUBERCULOSIS.

The subject of tuberculosis has received even more than the usual amount of attention from the medical profession during the past year, and has also been largely discussed by leaders in public opinion who have no special interest in medical topics generally. The frightful prevalence of the malady, its well proved infectiousness, and the reasonable assumption that proper preventative measures would prove at least as effectual as they have proved in the case of small pox, have been brought forcibly to the attention of the public at large, and as a legitimate result we find an active general interest being taken in the disease, particularly from the public health point of view, and a strong disposition in many countries to attempt state control in tuberculosis.

I am sure, sir, that you have many sympathizers in your earnest endeavors to secure suitable sanatoria for the treatment of those who are subject to tuberculosis. The utility of such institutions is apparent, and the test of time has proved them to be the most potent means known in combatting the disease. All who interest themselves in the public health must appreciate the advantages which sanatoria offer to those who are struggling for the life which is threatened by this dreadful "white plague."

But it is obvious that even a very generous distribution of such sanatoria will not suffice to afford care to all those who suffer from the disease in our Province. At best, a large number will have to depend upon home treatment, and in order to assure the best chance of recovery to such the doctrine of fresh air and fullest nourishment should be ceaselessly advocated. And for every case the importance of an early diagnosis must always be urged.

Apart from the ordinary physical methods of examination, which too often yield no definite information until after the disease has made considerable headway, we have two aids to diagnosis which are usually available early in the course of the disease, and which should be brought into requisition in cases which are of a doubtful nature. One of these is the microscopical examination of the sputum; the other is the use of tuberculin. The sputum should first be submitted to a careful search for the tubercle bacillus, and, if the organism is not found, and there is still the suspicion that tubercular disease exists, tuberculin should be administered and its effects noted.

Of the thirty-two specimens of sputum examined for the tubercle bacillus, eighteen were found to contain the organism, while in fourteen it was not detected.

A number of other forms of bacteria are always found in sputum, and in the eighteen specimens which contained the tubercle bacillus other bacteria were noted as follows:

Staphylococci	in 16 instances.
Streptococci	“ 5 “
Sarcinæ	“ 6 “
Other bacteria	“ 8 “
Yeast	“ 2 “

The tubercle bacillus was noted as being present in but small numbers in four instances, in fairly large numbers in eight instances, in large numbers in five instances, and in very large numbers in one instance.

I have still again to ask that specimens of sputum be sent to me in clean bottles, well stoppered. It is both unsatisfactory and unsafe for me to attempt the examination of bits of cloth and bits of paper upon which sputum has been received, and upon which it has usually dried completely before it reaches my hands.

#### DIPHThERIA.

Despite the efforts being made in some quarters to belittle the value of the bacteriologic test in diphtheria, it has steadily gained in favor, and is now an established means of diagnosis. It is, in fact, conceded that infection by a certain streptococcus presents a clinical picture almost identical with that caused by infection with the diphtheria bacillus. “There is no clinical difference in the picture of the throat lesion produced by the two organisms, and the only positive method of diagnosing the one from the other is by means of a careful bacteriological examination. Such an examination should always be made, as it has much weight in connection with the treatment.”—(McFarland.) Of course the conditions produced by both of these organisms are infectious, and both should be dealt with accordingly.

Twenty-eight out of the fifty-seven swabs sent for examination were found to contain the diphtheria bacillus. The remaining twenty-nine swabs did not yield a culture of this bacillus, but of these twenty yielded a growth of a streptococcus. In the twenty-eight cultures which shewed a development of the diphtheria bacillus, other bacteria were found as follows:

Staphylococci	in 15 instances.
Streptococci	“ 6 “
Sarcinæ	“ 11 “
Other forms	“ 4 “
Yeast	“ 2 “

#### TYPHOID FEVER.

The added experience of another year serves but to strengthen the opinion that the “Widal” test in typhoid is wonderfully accurate and is a most valuable addition to our diagnostic armamen-

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tarium. We continue to make use of Dr. Wyatt Johnson's modification of Widal's method, which is especially adapted to our work. Statistics collected from several sources and including many thousands of examinations show that the test errs in less than 5 p. c. of cases.

During the past year we have applied the test but twenty-nine times, and in but nine instances with a positive result. In two instances a negative result was obtained from patients undoubtedly suffering from typhoid fever. Subsequent tests corrected the error in one case, but in the other it persisted. These were the only instances in which I was informed of inaccuracy in the test.

I have again to complain that many of those who make use of the laboratory fail to inform me whether the subsequent history of their cases is confirmatory of our laboratory diagnosis or not. In order to make our statistics of value we should know in what proportion of cases we fail, and this we cannot know without the co-operation of the members of the medical profession.

In closing I must express my gratitude to you for your interest in the laboratory, and for your kindly courtesy to me at all times.

Your obedient servant,

W. H. HATTIE.

Laboratory Provincial Board of Health, }  
Hospital for Insane, Halifax, Sept. 30, 1899. }