

**PAGES**

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Supreme above all partisan healing sects and systems and creeds stands the scientific medicine of to-day, the heir of all that has preceded it since men began to heal. It asks itself these questions: What is health? What is disease? How may disease be prevented? How may the sick be cured? Its business is to discover and to apply the correct answers to these questions, and in doing this it exhibits the liberalism that characterizes all true science. It seeks its knowledge from all sources and by all legitimate means. All that it acquires it puts to the rigid, critical test of experiment, and it discards all that which does not stand this test. It thus represents a great body of selected, scientific knowledge which is the best that science can offer to-day. To-morrow its knowledge will be more abundant and more exact, and as general science continually advances, medical science will keep pace. Its followers are terribly in earnest in their warfare against disease. Like the intrepid Ulysses, they are

“strong in will

To strive, to seek, to find, and not to yield.”

The altruism of men of medicine has become proverbial. Their heroism in investigating and treating disease is often put to the test, and is rarely found wanting. Their ideals are high, and they can be trusted to do what is within their power to put an end to the ills of suffering humanity. Yet it should be borne in mind that scientific medicine unaided has a well-nigh impossible work before it. If it is to accomplish the final banishment of disease, it must have the sympathetic co-operation and encouragement of mankind, in whose interests it continually labors.

—*Frederick S. Lee, Ph.D.*



James Roberts, M.D., M. O. H., Hamilton, Ontario,  
whose article "Insanitary Areas" appears in this number.

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## Special Articles

### CHEESE FACTORY AND FARM WELL WATERS

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For the past seven years we have in our laboratories been making a considerable number of analyses of waters from rural districts, the samples being sent in by local Health Officers and Boards of Health. A large proportion of these, in fact, an average of 70 per cent., were found to contain colon bacilli, but it was found difficult to draw any exact conclusions from these samples for two reasons: 1st. The data sent by collectors of samples was frequently meagre or lacking in important details which would make them of value in drawing conclusions. 2nd. The samples were mostly from sources of supply under suspicion, hence the percentage of infected samples might be considered unduly high. During the last year, however, opportunities were afforded by which a more careful sampling, coupled with inspection of sources of supply, was rendered possible, especially from cheese factories, creameries and certain dairy farms. Further samples so submitted were not selected, but included samples from all cheese factories of certain districts. The work was only gotten under way this year and I hope in a very few years to have a fairly comprehensive bacterial survey of the water supplies of our cheese factories,

creameries and of some of our dairy farms in Eastern Ontario.

This work has been rendered possible through the dairy inspectors in charge of various districts in this part of the Province. These men were given special instruction in sampling and water supply inspection, when in Kingston for their annual term of instruction at the Dairy School. This past year only 311 samples were examined, and it is the result of these analyses that are presented here. I do not think that these results so determined will teach us much that is novel, but they will at least confirm the work done by other investigators of rural water supplies, and will emphasize certain of their conclusions. I have good reasons, too, for thinking that samples so far received will afford a fair indication of the general character of such water supplies.

The data sheets which accompanied the specimens dealt with the situation of well in relation to surrounding buildings, drains, accumulations of manure or waste matter of any kind, character and cleanliness of surface soil about well, the elevation of well mouth, the curbing and covering of well, water drip, etc. Well samples were classified into six groups, the first

basis depending on the elevation or non-elevation of well mouth above surrounding soil, and second basis on the protection of well mouth including curbing, cleanliness of soil just about well, the well covering, etc., the wells being divided into three groups, viz., apparently well protected, poorly protected and unprotected. I think we must recognize that the most common sources of pollution of rural wells is from the immediate surroundings of the well itself; poor covering allowing the drip from pump to run back carrying its load of dust, dirt and stable matter from boots of those using pump; or the entrance of rain water with a similar load; poor protection by improper curbing allowing similar material to enter from sides of well near surface. The custom of watering animals about well mouth and letting their droppings lie about to be washed in assists very materially in this pollution. Lack of elevation of well mouth allows direct entrance in poorly protected well of surface run-off water with its load of waste matter. It is such conditions that most frequently give rise to pollution, while entrance into shallow wells of polluted subsoil water by seepage from stables, manure piles, privies, accumulated slop waters, etc., plays a much less conspicuous part in ordinary farm wells. In village wells I do not think this statement is justified, as my experience with village wells has been that subsoil water pollution is at least as prevalent as is immediate pollution from surface surroundings of well.

To proceed to a review of results of inspection and analysis of samples; of 311 samples examined, 245 were well waters classed as 149 shallow wells and 66 deep wells. I cannot claim that the inspectors were justified in classifying certain wells as deep wells, as they included all drilled

wells in this class, even those in fissured limestone. However, of the waters so classed 69.2 per cent. of the surface wells and 53.5 per cent. of deep wells were more or less infected with intestinal bacteria. Of the waters from springs there were 42 samples and of these 57.1 per cent. were similarly infected. While the balance, some 24 samples, were from small rivers or creeks or from lakes open to shore pollution, the water being drawn as a rule close to shore and of these samples 75 per cent. were infected. I have grouped in tabular form the results of these analyses and have arbitrarily divided the waters into five classes, viz., good, passable, slightly contaminated, quite contaminated and grossly contaminated. I will now state the basis of this classification. Good waters are such as had a comparatively low bacterial count and were free from colon and colonoid bacteria or putrefactive species. Passable waters were such as were free from colon bacilli or typical putrefactive bacteria such as *B. vulgaris*, but might contain some dextrose fermenting bacteria and count be fairly high (lactose and dextrose broth media and agar plates were employed for primary culture). Slightly contaminated were samples showing colon or colonoid bacilli or typical putrefactive bacteria in 1 c. c. lots, not in 1-10 c. c. and bacterial count at same time moderately low. Quite contaminated samples were such as showed colon or colonoid bacilli at least 10 per c.c.; while grossly contaminated samples were ones showing these bacteria along with a general high bacterial count. As will be noted, the division is arbitrary and some difficulty at times arose as to which class to put sample in. However, especially in contaminated class the physical characters of sample and the chlorine estimation assisted in the determination.

Table I.

Bacterial Characters of Well Waters	No. 1		No. 2		No. 3		No. 4		No. 5		No. 6	No. 7	Total
	Surface	Deep	Surface										
Good	15	16	2	1	0	0	2	2	0	0	0	1	39
Passable	10	16	4	2	1	0	6	8	2	1	2	0	52
Slightly Contaminated	4	3	12	12	0	0	1	0	3	1	2	1	39
Quite Contaminated	4	4	18	18	2	1	3	1	13	9	11	2	86
Grossly Contaminated	0	2	11	1	6	1	0	0	2	0	5	1	29
Total	33	41	47	34	9	2	12	11	20	11	20	5	245

166 Samples { No. 1. Mouth of well elevated, properly protected = 77% safe waters (good or passable).  
 No. 2. Mouth of well elevated, poorly protected = 11% safe waters.  
 No. 3. Mouth of well elevated, not protected (uncovered) = 9% safe water.  
 74 Samples { No. 4. Mouth of well not elevated but properly protected = 78.2% safe water.  
 No. 5. Mouth of well not elevated, poorly protected = 10% safe water.  
 5 Samples { No. 6. Mouth of well not elevated, not protected = 10% safe water.  
 No. 7. No data on which to base conclusions.

From a study of Table I., it will be at once apparent that proper protection of well mouth and of immediately surrounding soil reduces very materially the percentage of safe waters, while lack of such protection increases markedly the chances of contamination, in fact makes contamination almost certain.

Table II.

Bacterial Character of Water	Protected Springs	Springs not protected	Streams, Creeks and Small Rivers	Lakes and Large Rivers	Total
Good - - - - -	13	2	2	2	19
Passable , - - - - -	1	2	0	2	5
Slightly Contaminated - - -	3	6	4	1	14
Quite Contaminated - - - -	0	11	9	2	22
Grossly Contaminated - - -	1	3	2	0	6
Totals - - - - -	18	24	17	7	66

18 Protected springs=77.7% safe water (good or passable).  
 24 Non-protected Springs=16.6% safe water.  
 24 Creeks and Lakes=25% safe water.

A very similar finding can be recorded for the spring waters examined as seen in Table II. Thus in springs protected in apparently good manner 77.7 per cent. proved safe waters, 72 per cent. being classed as good waters; while with the water derived from unprotected springs only 16.6 per cent. proved safe waters. Again where streams, creeks, rivers or lakes were used as sources of supply, the pipe usually being close inshore, but 25 per cent. of the samples are classed as safe waters for reasons which scarcely need statement,

such as drainage of manured land, drainage of houses, stables and cheese factories themselves.

With such data at our command, it is hoped that we have taken the first step toward ensuring better water supplies at cheese factories, creameries and dairy farms in Eastern Ontario as the information obtained was placed in the hands of dairy inspectors who possess authority to demand improvements in all matters of dairy sanitation.

Table III.

Water Samples from various Counties, listed as to quality—1911.

County	No. of Sample	Good	Passable	Slightly Contaminated	Quite Contaminated	Grossly Contaminated
Carleton - - - -	29	6	2	4	13	4
Dundas - - - -	22	3	3	4	8	4
Frontenac - - - -	5	1	0	1	2	1
Grenville - - - -	5	0	2	1	1	1
Glengarry - - - -	21	1	2	7	9	2
Haliburton - - - -	1	1	0	0	0	0
Hastings - - - -	32	6	8	10	9	0
Lanark - - - -	17	3	5	5	4	0
Leeds - - - -	38	9	11	4	11	3
Lennox and Add'n	12	2	3	3	2	2
Northumberland -	7	1	1	1	3	1
Peterborough - - -	10	4	1	0	3	2
Prescott - - - -	36	2	10	3	16	5
Prince Edward - -	13	4	1	0	8	0
Renfrew - - - -	18	3	1	4	8	2
Russell - - - -	12	2	4	2	3	1
Stormont - - - -	22	6	2	2	5	7
Victoria - - - -	11	4	2	2	3	0
Totals - - - -	311	58	57	58	108	35

## WORK FOR WOMEN AS SANITARY INSPECTORS

BY ETHEL HURLBATT, M.A.,

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The Canadian Public Health Association is an organization designed to meet the needs of to-day and to prepare to meet those of tomorrow.

A country passes through three well defined stages. There is, first, the stage when voluntary effort is alone in the field combating evils caused by lack of sanitary and hygienic regulations. There is, secondly, the stage when voluntary association for health purposes are recognized and aided by public authorities, when, to use a phrase of Mr. Sidney Webb's, we find voluntary work in a State or Municipal setting. Then there is the third stage, when the central government recognizes its full responsibility and occupies the field, leaving voluntary effort free for new conquests; for there is always a new horizon disclosing new opportunities for further initiative.

It is the object of this Association to promote activities of three kinds, namely, to stimulate voluntary effort; to obtain increasing recognition and support for work so initiated, and to carry the health movement to the final stage when a public health department or bureau shall be an essential and important part of government organization, Federal and Provincial.

The existing laws of Canada provide for certain activities of Federal, Provincial and Municipal authorities in the matter of public health. What is now needed is favorable public opinion, which means readiness to pay for a greater extension of activity; and the speeches at the inaugural meeting indicated what might be undertaken by the Governments of the Dominion and of the Province of Quebec if sufficient pressure were applied.

Canada has more than begun to realize the truth of the statement that "What a man does with the waste on his farm, the condition of the place from which he gets his drinking water, the number of lodgers he takes into his house are no longer questions which concern the individual only, but that the health and well-being of the

unit affects the whole, and that no man is free to be a source of danger or infection to his neighbour." And what has been true of other countries has been true here. The development in population and the growth of modern industry, causing men and women to congregate as workers in great cities is becoming evident, and in their train will come the unskilled and the incompetent, who, together form the ill-educated and the ill-paid workers whose presence in a community involves overcrowding and insanitary housing conditions. And, at the same time, is coming a vast growth in the number of men and women laboring in factory and workshop.

It is these two tendencies of modern life, crowding and factory labor that will call for a great extension of industrial and sanitary legislation and for the employment of an ever-increasing number of factory and sanitary inspectors.

Since the dangers of insanitary conditions are overtaking the home, and since women in large numbers resort to factory and workshop to earn a living, there arises here, as has been the case elsewhere, the need for the presence of the woman sanitary inspector.

There are still many people in whose minds sanitation is associated with drains, or, at most, with drains, water supply and smoky chimneys — three most important matters, for were they thoroughly controlled and their evils minimized the health of most communities would be materially improved; were they attended to in Montreal, the canopy of smoke in which the city is rapidly being enshrouded and which must soon become a menace to human and to plant life down here below the mountain, and which must assuredly creep up and threaten even the mountain itself, unless means are taken to avert it—this canopy might be lifted from the city. It is to be hoped that the Canadian Public Health Association will not neglect to make an attack upon the smoke nuisance.

But the sanitary inspector's work does not stop with drains, water and smoke. It embraces in its scope the factory, the workshop and the tenement house, in fact, it deals with the conditions under which the majority of people are earning their living and with the conditions under which the poorer live. It cannot be seriously objected that the services of women sanitary inspectors are not required when work has to be done in connection with the woman worker in the factory and workshop, and in the homes of the poor. There is no doubt that women sanitary inspectors are acceptable to women in the factory and in the home. Women workers will tell a woman of grievances upon which they have been silent for years in the absence of one of their own sex to whom to mention arrangements or lack of arrangements injurious to health, and which good employers would most gladly have remedied had they known of the hardship inflicted upon their employees thereby. And, again, if homes have to be inspected, housewives will agree with the old woman who said, "If we must 'ave somebody a-ferretting in our dustbins and backyards we'd rather 'ave a lady and her a nice young lady, too!"

Some men have thought and think with misapplied chivalry that work in slums, rough tenement houses, and such places, is not fitting work for women, but should be left to men. They surely forget the nature of the work undertaken by such devoted servants of humanity as Victorian Order Nurses, Sister and parish workers, and others, and they forget that where some women have to live other women should be able to go.

It has been found in England, where there has now been some fifteen years' experience of the work of women inspectors, that in view of the nature of the work falling to the office of the Medical Officer of Health, the staff is as incomplete without the services of women as it would be without those of men. Almost every important borough in the Old Country has one woman sanitary inspector, and some have two.

It has been found that women must have for this work as good a training as men; they should know all about drains and

water, but they more often than not have a limited amount of work in these connections. Their work concerns itself more with what may be termed the domestic part of hygiene, rather than with its sanitary appliances. Gradually it has become evident that women sanitary inspectors are most needed, and can do their best work in special directions which have been summarized as follows:

"1. The inspection of laundries and workshops where women and girls are employed. The sanitary inspector is responsible for (a) the cleanliness and adequate ventilation (not temperature) of the work-rooms; (b) the number who may be employed in each room; (c) the drainage of the floors of wash-houses in workshop laundries; (d) the provision of suitable, sufficient, and, where, both sexes are employed, separate sanitary accommodation. Notices to abate nuisances arising from the infringement of these regulations are served under the Public Health Act. (Defects in drainage are usually reported to the Medical Officer of Health, who hands them over to the male inspector for the district.) Non-compliance with an intimate notice necessitates the service of a sanitary notice, to be followed by legal proceedings if the work is unduly delayed.

2. The inspection of the homes of out-workers, a term applied to those who do certain kinds of work in their own homes instead of on the premises of their employers. When we consider that a very great proportion of the wearing apparel offered for sale is made in the homes of the poor, frequently under dirty, unsanitary and unsuitable conditions, the necessity for inspection must be recognized and is undeniably work for a woman inspector.

3. The inspection of houses let in lodgings and of tenement houses, in some few boroughs falls to the lot of the woman sanitary inspector. She is required to see that the necessary cleansing is carried out at stated times; in cases of infectious diseases that proper precautions are taken; that there is no overcrowding; and that the premises are kept in thoroughly sanitary condition.

4. The carrying out of duties connected with the cases of notifiable infectious diseases is in some districts the work of the

woman inspector; also the visiting of schools where have occurred cases of measles and other non-notifiable childish complaints, in order that precautions may be taken to prevent their spreading.

5. The inspection of hotel and restaurant kitchens also finds a place among the duties of women sanitary inspectors, as also of public lavatories for women. In some provincial towns the inspection of the shops under the Shop House Acts and the Seats for Shop Assistant Act, forms part of the woman inspector's work.

6. In many boroughs a system of voluntary notification of certain diseases not legally notifiable obtains. Consumption is one of these, and the duty of visiting such cases is usually delegated to the woman inspector. Under recent regulation of the Local Government Board (1908-9), notification within 48 hours is required, of every case of pulmonary tuberculosis attended by a Poor Law Doctor, whether attended at home or in a Poor Law institution. In the case of those nursed at home periodic visits are made for the purpose of seeing that necessary precautions are taken against the spread of infection.

7. The investigation of cases of death from diarrhoea of infants under one year is another duty assigned to women inspectors. Here a word must be said about the health visitor often associated in the work of the Department of the Medical Officer of Health."

The health visitor is often less qualified than the sanitary inspector; usually differently qualified; possessing some knowledge of sick nursing and even of midwifery. It may be said that where both are employed the woman sanitary inspector deals principally with the employer of labor, and the conditions under which the poor earn their living, whereas the health visitor deals primarily with the conditions under which the poor live. Health visitors are employed in England in supplementing the work of sanitary inspectors in the special work of visiting mothers after notification of the birth of their infants, for it is thoroughly recognized that one of the first steps towards checking the terrible and unnecessary waste of infant life is to visit the mothers in their homes and help them with advice from the first. New powers have

lately been obtained by which sanitary authorities may appoint health visitors "for the purpose of giving to persons in poor circumstances advice as to the proper nurture and care and management of young children, and of promoting cleanliness, etc." The public authority can now undertake on a sufficient general scale what has hitherto been done by private agency.

A word as to the qualifications of women for this specialized work for public health. A woman sanitary inspector writing on the subject says that she must have more than the average physical strength, tact and capacity for dealing with people, and she must have training. Another writes that no woman should go in for sanitary inspector's work unless she possesses both tact and common sense. A doctor comes into a house or workshop because he is asked. A policeman comes in with all the majesty of the law. A sanitary inspector, on the other hand, has to go where she is not asked and succeeds best where she does not call in the law. An amusing account is given of a day spent with the woman inspector of one of the London boroughs by a woman journalist who had been given leave to accompany the inspector on her rounds, and, after an amusing account of their adventures in ragshops, laundry and flour factory, she concludes as follows: "The tact wherewith the inspectress proved her calling was admirable. To a novice it appeared somewhat appalling to invade a front door, demand a sight of the dustbin, unravel the mysteries of backyards and trace the source of drinking water. But the inquisitorial nature of our inquiries was conducted most delicately by the sanitary lady. She invariably remembered that on a previous visit the baby was ill, or the husband laid up, and her inquiries on these points established binding sympathy which softened the nature of her work."

A description is given of the "day sheets," as used by the inspector in Liverpool, the work there, consisting of house to house visitation in the worst and most ignorant district. On her day sheet the inspector enters the name of the tenant, and there are separate headings for such things as "number of families," "number of families found dirty," "number of

apartments," "number of houses clean," "number of houses dirty"; the heading including also such things as "condition of the children," "condition of bedding," and it obviously requiring a great deal of tact and common sense to be able to report satisfactorily on all these questions without raising opposition, and without destroying the remnant of self-respect left in the people visited.

Another writer says that no woman without high aims can hope to make a good sanitary inspector. "Officialism alone can never remedy evils. Infinite tact, infinite patience, infinite sympathy are more necessary than almost all other qualifications. "The work is not hard in the literal sense, but it is so constant that it requires good health and physical activity to keep going day after day and in all weathers. Good temper and power of quick observation, are, needless to say, also necessary.

A special training is essential, and the length of it will depend largely upon the

nature and extent of previous general education. Chemistry, physics, physiology, bacteriology and hygiene proper must be studied, and a full session is none too long for the purpose. At present the woman sanitary inspector in England is probably a good deal better educated than the man inspector. She is paid less. If she is appointed because she can do some of the work better than men, it is absurd to pay her less. If she takes less she is laying herself open to the charge of lowering wages all round. These women ought to be paid at least as well as men, and probably men should be paid more than they now receive.

The need of women sanitary inspectors will soon make itself felt in Canada. May the Canadian Public Health Association hasten the time of their coming, and may the woman inspector take her part in the war against ignorance and disease, which are already imposing such a heavy tax upon the health and efficiency of the nation.

## VACCINES AND THE COMMON COLD

BY CAMPBELL LAIDLAW, B.A., M.D.

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The subject of vaccines must needs have a special interest for the laboratory worker, but when its study involves methods of prevention, as well as of cure, the interest must be the greater for him whose work is more particularly concerned with the question of public health.

It may, therefore, be appropriate to the present occasion to introduce a discussion bearing upon the relation between vaccines and the common cold, which, while serving to emphasize the importance of the latter as in itself vitiating to the public health, may indicate as well, a possible means of prevention of certain other more serious conditions so often ushered in by it.

The clinical course of the common cold, by which is meant that less severe catarrhal involvement of the respiratory passages epidemic in parts of Canada at certain sea-

sons of the year, presents features so characteristic as to make it an entity in the list of bacterial diseases; while to a greater extent than in most of these, predisposing influences constitute primary factors.

In the nasal, tracheal, and bronchial secretions of healthy persons, it is the rule to find bacteria present, and although exception in this regard is claimed in the case of healthy individuals who have lived for some time far remote from civilization, yet it is a fact that the more highly organized and complex the community, so are they to be found in greater abundance and variety. It may not be reasonable to suppose that the harboring of these bacteria is in itself injurious, but, at any rate, under conditions which temporarily predispose to lowered resistance their role as a menace to health is often proved in the

form of an endogenetic infection for the host, and, later, perhaps, as an ectogenetic infection for those in contact with him.

It is these infections (oftentimes whether or not they remain in the non-specific group) which give us the clinical picture of the common cold; whether they involve separately or together the different portions of the respiratory tract; whether they are concerned with a nasal catarrh, a pharyngitis, a laryngitis, a bronchitis, or even possibly an affection of lung tissue.

Bacteria in association with such infections provide a wide field for research. How often, for instance, is one species of micro-organism responsible for the process, and how many varieties may at one time be active in its causation? What organisms tend to grow at the expense of others in the one nidus? What is the incubation period for each species, and what the nature of the toxins elaborated? What differences in cultural characters and in symptomatology may be noted in cases representing virulent and non-virulent strains, and at what stage in the disease are organisms at a maximum of virulence? In the case of the process being due to an organism usually associated with disease, what special laboratory phenomena, if any, are to be observed which might mark differences as to its proliferation, dissemination, and infectivity? What biological products can be prepared with a view to conferring an immunity from, or, at least, raising resistance to these organisms? These and many other questions present problems which might call for solution in the course of systematic investigations.

A short personal experience in making observations along the lines indicated in these queries has convinced me that vaccines have a worthy place in this connection, not merely as therapeutic and immunizing agents, but also as a means of further introduction to the possibilities in store for a broader and closer laboratory study of public health matters.

Let me illustrate the meaning of this by touching upon a few points which have been brought to my attention.

In a series of cases of the common cold recently observed I found that during the incipient stage, cultures from the secretions showed generally a variety of organ-

isms, none of which seemed to be present in abundance or to grow luxuriantly, but that in some instances only one or two kinds of organisms grew in culture; that with the continuance of the process there became evident a tendency toward diminution in the number of kinds; while with the return to normal, the bacteria which had been abundantly present showed both a tendency to disappear from the secretions and a disinclination to proliferate rapidly on culture media; that those organisms which appeared to flourish at the expense of others, were, in most cases, the pneumococcus, the streptococcus, the micrococcus catarrhalis, the influenza bacillus, and the bacillus mucosus capsulatus, that vaccines prepared from growths of the organisms which seemed prone to so flourish produced beneficent reactions in the patients inoculated with them, particularly in the early and late stages of their trouble; that in certain mild tuberculous cases tuberculin, either alone or in combination with bacterial toxins associated with the process, produced good effects; that in two cases of severe cold of acute onset where pneumococci were plentiful in the expectoration and where exposure to direct infection along with characteristic signs aroused fear of impending pneumonia, speedy resolution supervened upon large doses of pneumococcus vaccine.

Other points could be recalled if time would permit, e.g., the evidence of increased virulence of toxins with the passage of bacteria from host to host; and the efficacy apparent in administering as a routine measure, both prophylactic and therapeutic, the so-called "gun-shot" vaccine.

In concluding, it may not be superfluous to say, by way of adding to the suggestion implied in the introduction to these general remarks, that well-equipped laboratories created in the interests of the public health are a necessity, not alone for protection in times of crisis and for the consideration of large questions, but equally so as a source whence may come education for the public in the importance of the supposed "trivial things," and instruction and practical assistance for the physician in his work of preventing the lesser ills from becoming the greater.

## INSANITARY AREAS

BY JAMES ROBERTS, M.D.,

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Thoreau has said, "there are a thousand people lopping off the branches of an evil for every one who is striking at its root." The crusade against tuberculosis, the increasing sentiment against the pollution of public water supplies, and the unnecessary prevalence of typhoid fever, the administration of anti-toxin in diphtheria, the demand for betterment in our food supply and the call for the protection of infant life, have been instrumental in pruning the "preventable mortality" tree. Increase in scientific knowledge concerning the causes of disease, is constantly revealing how certainly this tree is dependent for subsistence on ignorance and faulty environment. Are we not warranted then in cherishing the hope, nay, even the conviction, that the present widespread movement against evil housing conditions among the poor and the working classes, means nothing less portentous than the application of the axe to the parent trunk.

During the last ten years the City of Hamilton has experienced a great wave of industrial activity, due in the first place to the investment of large sums of United States capital in the manufacture of agricultural machinery. This was followed by the establishment of the Westinghouse Co. and the development of the steel industry and later on by the introduction of other large and important industries, employing in the aggregate thousands of operatives.

The to-be-expected results have followed. Owing to the great influx of artisans and laborers from the United States, Great Britain and the other countries of Europe and to the migration of workers from other places, the demand for additional housing accommodation has become steadily more urgent and pressing.

In consequence of this, much land from adjoining municipalities has been brought into the market, laid out into streets and lots and utilized for building purposes in rather too many localities after a fashion calculated to yield large returns of interest or rental on small expenditure of capital. Land, which but a few years ago could

only be considered of agricultural value, has suddenly become not only available, but necessary for building and homestead purposes to be sold by the owners at fabulous prices, the unearned increment representing a sum many times greater than the original value of the land. Moreover, this expansion and factory building has taken place almost wholly in one direction, along practically the line of least resistance. The demand for housing accommodation, with the desire of the factory employee to be as near as possible to his place of employment has been almost altogether in the same direction.

As already stated, the land which has been laid out and built upon has been garden lots, orchards, agricultural land, etc. Ten years ago that man would indeed have been an optimist who would have ventured to forecast that in the present year of 1911, this land would be almost entirely laid out in surveys, provided with streets and in considerable measure built upon, so rapid has been the development. The land for the most part has been purchased by private speculators or held by the proprietors for speculative purposes in lots varying from one to one hundred acres or more.

Notwithstanding the crudeness and anti-quity of our building by-laws offering practically little or no objection to the erection of almost any class or character of shack, some of these surveys have been planned and laid out along lines that leave little to be desired. Wherever this has been done the plans, specifications and conditions of sale have been such as to provide a superior type of dwelling, ample garden space and all the surroundings conducive to a better residential locality.

In too many instances, however, the areas have been laid out with no thought as to the number of houses per acre, or the construction of such houses with reference to health, comfort or the rearing of families, with no regard for the amenities of the locality and no particular intention or design, except, perhaps, to mitigate the severity of the Canadian winter and to

make as much as possible out of the land from a speculator's point of view.

In a great many cases the land has been sold by means of most flaring newspaper headlines or to the accompaniment of a brass band and free lunch performance, or by other methods calculated to induce the more thrifty type of wage-earner to vie with his fellow worker in his eagerness to become a landed proprietor. Such areas are often thus disposed of without any reservation whatsoever, the individual purchaser either of large or small portions being at liberty to develop his lots in the manner that to him appears most advantageous.

From the standpoint of the city planner, this haphazard and individualistic way of building up certain areas without any regard for their future needs and without reference to the needs of adjacent and surrounding areas is much to be regretted.

The land owner who before placing on the market considerable tracts of suburban property, lays it out on broad lines having some relation to the probable development and requirements of the district confers a great service on the community, while at the same time not detracting from the worth of the land, but in many instances enhancing its value.

It is creditable to the foresight and good judgment of our corporation authorities that they have not allowed the city's natural growth to be hindered by the accumulation on our outskirts of small communities each working out its own salvation on the "minimal financial expenditure" plan. Nor need time be occupied in justifying the inclusion of these as part and parcel of the city when it is realized that water supplies, sewerage, fire protection, wide streets, lighting and scavenging are absolutely essential to their healthy communal development. We are, as it were, at the parting of the ways, and, assuming that for the future a wise and far-seeing policy will dominate the minds of those in charge of the city's destiny, it remains to briefly discuss ways and means necessary for the abolition of existing evils.

In the first place, I would emphasize the importance of recognizing that while cities, towns, villages and farm houses all have their problems of insanitation, the

remedy for conditions in Chicago or New York is not the remedy for conditions in Toronto or Montreal.

With the tenement house question we have had little experience and I trust that it will receive full consideration in some of the other papers.

In cities with a population of one or two hundred thousand or less, we find a large number of houses small or moderately small in size, occupied on short leases. The inflowing army of persons seeking employment, consisting largely of unskilled laborers with little or absolutely no capital and very few temporal possessions outside of some dilapidated furniture and untidy odds and ends, is driven inside the city by the cordon of prohibitive land values at its circumference.

With what results? Every available four walls surmounted by a roof that under normal conditions of city growth would never be accused of being a house, is eagerly seized upon and occupied at an outrageous rental. We find inhabited areas, comprising very ancient and moss-grown structures with weather-beaten and time-worn exteriors in narrow alleys, damp and sunless. Also large numbers of houses often long rows of them built a quarter of a century or more ago, at times of lesser boom and in proximity to industries that made necessary their construction. Hampered by no or imperfect building regulations, the owner of the land sought to obtain from it and usually succeeded, a very handsome return. These houses are now for the most part almost in ruins. They are small, damp, foul-smelling and dirty, the water supply, sanitary conveniences and drainage are defective, the plaster is rotten, cracked and mildewed, so that proper cleansing of the walls and ceilings is impossible, the flooring is in such bad repair that it cannot be washed without the water soaking through to the sewage polluted pool beneath.

To intensify evils some of these houses are built on the court yard or common yard system, with common access to water tap, private conveniences, sink, cesspool and yard. Can anything more degrading to women and children be imagined or anything more conducive to immodesty, indecency or ill-health?

In addition to such unsanitary hovels as

I have attempted to depict there are particularly in the heart of the factory districts, rows of houses occupying either side of the street for the most part hastily and poorly constructed, but fairly commodious and pretentious in design. These are leased by certain foreigners, having considerable intelligence and business acumen, for lodging house or boarding house purposes, and are crowded, sometimes literally packed from cellar to attic, with the denizens of Central Europe. As might be expected, conditions of insanitation comparable with those already described, within a short period become established both within and without the premises, but drunkenness, carousing, marriage feasts and stabbing affrays are the stellar pastimes of the element which inhabits them.

I have endeavored to outline as briefly as possible some of the problems which confront the health officer, the social reformer, the educationalist and the religious worker.

In the case of the health officer, the relation of congestion and insanitation to the tasks which demand his particular attention is so obvious almost as scarcely to require comment. The average layman, however, busily engaged in commercial or technical pursuits or absorbed in the making of money or the education and progress of his family may not, generous and patriotic citizen though he be, readily comprehend the baneful influences emanating from the plague spots which are discoverable in every city. It may not occur to him that an intelligent democracy cannot be reared in slums nor that the remedy par excellence for bad social conditions is to improve the home surroundings and environment of the workers.

A few statistics, therefore, which might otherwise be superfluous tending to show the relationship which exists between housing conditions and the rise or fall in the death rate, also the effects of overcrowding may be interesting to laymen, if there be any present. In a quarter of a century the general death rate of England and Wales has fallen by over 7 per thousand. During the last half century the death rate from phthisis in England and Wales has fallen 50 per cent. The death rate in the city of London is about 15 per thousand, while in some of the slum dis-

tricts it is three times as great.

Squire and Hulbert, after a study of conditions in London, reported to the International Congress on Tuberculosis, that "among the poor the source of tuberculosis must generally be sought in the home." With respect to overcrowding, Dr. Farr, one of the early pioneers of vital statistics, submitted figures to show that overcrowding is an essential cause of unhealthy conditions and a high death. It has been proven repeatedly that in London, Paris, Berlin, and New York the mortality rose in the same proportion as the density in special areas where the people were most crowded together. Lagneau has shown from statistics collected from 662 cities in France that the denser the population the greater is the number of deaths from tuberculosis, the death rate being in cities of 20,000, 2.71; in cities of 100,000, 3.05; in cities of 450,000, 3.63; and in Paris, 4.50. In London it has been found that in districts where there was less than 10 per cent. of overcrowding, the death rate was 1.10; where there was less than 25 per cent. the death rate was 1.80; under 35 per cent. the rate as 2.42, and over 35 per cent., 2.63.

Glasgow took the physical measurements of 72,857 school children and ascertained their height and weight in relation to the number of rooms in the houses in which they lived. The average height of boys whose families lived in one room was 46.6 inches; of those who lived in two rooms 48.1; three 50 inches and four or more 51.3. The average weight increased in a similar manner, from 52.6 pounds to 64.3 pounds.

Concerning the influence of insanitary home surroundings, overcrowding and parental neglect in other directions, I had occasion at the American Public Health Association meeting in Milwaukee, 1910, to point out that in looking over my records of diphtheria for the past five years no less than 45 per cent. of my cases, representing not more than one-fourth of the school population, are derived from the districts of the city where the industrial classes are centred, where the housing is inferior, the sewer accommodation insufficient, and where overcrowding exists to a greater or less extent. And, lastly, let me call your attention to the report of your

capable health officer on the sanitary condition of this city (Montreal) for 1910, in which we find deaths in children under five years, tabulated as follows:

Under 6 months, 20.53 per cent. of total mortality.

Under 1 year, 11.12 per cent. of total mortality.

Under 2 years, 7.66 per cent. of total mortality.

Under 5 years, 6.33 per cent. of total mortality.

I sometimes wonder to what extent do figures and facts such as these appeal to the man on the street, and if he has no realization of their meaning, why not? Does their significance radiate to the extent it should beyond the circumference of a mere academical discussion such as this conference affords? What per cent. of the population, yes, of the educated public, have any actual idea of the relation which exists between poverty, vice and crime on the one hand, and disease on the other? How many people realize that drunkenness is the result of wretched home surroundings as often as it is the cause? Can there be anything of home life under circumstances where we have the amount of multiple occupancy of small houses that exists in cities of even less than 100,000 inhabitants? Where people are crowded three, four or more together in sleeping apartments with insufficient light and air, is there any other result to be expected than immodesty, a lowering of moral tone and a strangulation of ideals? Is it any wonder that under such circumstances the father becomes a saloon frequenter or that the girls escape to the cheap theatre and the glare of the footlights, that the boy becomes a street loungeer and a vagabond? The causes of prostitution and crime are, after all, difficult to discern for those only so blind as to be unwilling to see.

And yet the problem of insanitary congested areas remains with us. All over this country conditions exist on every hand which we realize fully should be altered.

When we come to discuss the question as to what is the best procedure to be adopted by the municipality, or Board of Health, or Housing Committee, as the case may be, in order to improve these unwholesome conditions, we find ourselves at once on de-

batable ground, for the reason already mentioned that while there is a housing problem in every town or city, the remedy is not the same in each instance. Some reformers may argue that the problem will best be overcome by the municipality undertaking the building of houses. Others may think that the owners of unsanitary houses should be compelled to keep them in good repair or demolish them. Others still would lay special stress on the education of the slum dweller, so that he may not remain ignorant of the laws of health.

The attempt on the part of the municipality to buy up large areas of land on the outskirts of our growing cities and to undertake the building of houses on a scale anything like extensive enough to meet the pressing demand of a rapidly increasing population such as ours, is an enterprise the magnitude of which should be fully appreciated before it is entered upon.

So many factors must be considered in dealing with the presence of poverty that it becomes absolutely essential that they be thoroughly studied before provision of houses for the very poor can be settled in a proper way.

The respectable poor, the victims of misfortune, such as continued illness or lack of employment, consequent upon dullness or inactivity in certain lines of occupation, generally experience little difficulty in obtaining small houses at a low rent, because they keep them clean and in good repair.

The drunken, lazy and improvident, unclean and untidy that go to make up the class of undeserving poor are unable to obtain houses because they are notoriously uncertain in their payments and will not keep them in satisfactory condition. Amongst this element we meet with tendencies that point rather strongly to inherent depravity. Money that is needed for clothing and food is squandered or thrown to the dogs on senseless and useless extravagancies. I have known a type of this class and a mother of small children to make the rounds of no less than five moving picture shows on a Saturday afternoon.

These references to the difficulty of "municipal housing for the poor" are merely suggestive. There are those who are warm advocates of municipal building in suburbs and have no fears for the prac-

ticability of such schemes provided cheap and rapid means of transit from the centre to the suburbs is available.

In the matter of compelling landlords to make their houses fit for habitation or close them up, there can be no hesitancy in the great majority of cases, because, owing to the necessity of being near to their work or other exigencies tenants are compelled to pay exorbitant rentals for very inferior accommodation. The surroundings and appurtenances of the sources of their sordid revenue entitle the proprietors to little mercy or consideration. The unsewered vault with its noisome odors penetrating the hot summer night, the myriads of flies feeding on its contents, and then proceeding to the kitchen where food is in preparation or swarming over the unprotected bodies and faces of sleeping infants, must be banished from proximity to the houses of the poor as well as the mansions of the rich.

Within the last few weeks we have had occasion to take summary proceedings against several nests of most objectionable rookeries that have been an eyesore to the health department for some months. They are owned by landlords of the "money hungry" variety, entirely out of sympathy with the "fads and fancies" of the "enthusiasts," "extremists," "idealists," etc., who go to make that body of very bad people—the health authorities.

In one of these clusters abutting on an unpaved and unsewered alley, a house of about 18 x 22 contained four families, two upstairs and two below. All of the rooms were ill-lighted, unclean and impregnated with the pungency of ammoniacal odors. A small bedroom in one of the downstairs apartments was the sleeping allotment for four persons. The kitchen contained a sofa where one man slept; what small space remained being utilized for cooking and eating purposes. There was no lathing or plaster, the shabby paper faded and torn being pasted on the rough boards; the sills of the doors both front and rear were several inches below the level of the alley, so that in times of storm the water poured in like a miniature river and flooded the whole place. The roof furnished ample evidence without minute inspection of being in disgraceful repair. In the alley, at right angles to the one on which the house

faced, were found several old mattresses, filthy, water soaked and foul smelling. The revenue from the unfortunates who occupied these premises was in the neighborhood of twenty-five dollars per month. Is it to be wondered at that landlords criminally avaricious enough to accept without scruple such nefarious gain, should cower at the prospect of their cold-blooded methods being dragged into the light of day and should seek to screen themselves behind insinuations of being "singled out," "persecuted," etc., by the health administration?

The remedy, of course, for all this sort of thing is thorough sanitary inspection, followed by prompt closure where immediate steps are not taken for the application of remedial measures. As a recent writer on housing admirably puts it: "Instead of sitting calmly waiting for complaints, health inspectors must systematically go about 'looking for trouble'—they will find plenty. Instead of sending a man to look at one thing in one house, because it is complained about, there should be a well trained corps of men going over every part of the homes of the poor, systematically and thoroughly scrutinizing carefully every part of the building where trouble might naturally be expected—all the probable danger points. Such inspection would include the cellar, the water closets and privies, the public halls and stairs, the roof, the out premises, the individual apartments and the plumbing, with special emphasis laid on the public parts of the building. It should be done on the Health's Board's initiative, and should be periodic, that is, at sufficiently frequent intervals to insure the maintenance of the homes of the poor in proper sanitary condition. Once a month is the ideal. Once a year is the minimum. Three times a year should be practicable in most cities.

Furthermore, in order to facilitate the work of our health departments, which at the present time in nearly all cases, are frightfully undermanned, it should not be incumbent on a sanitary inspector who knows his business to be delayed and hampered by the necessity of proving that these undesirable conditions which he seeks to sweep out of existence are "dangerous or injurious to the public health." To cavil over the propriety of declaring "dan-

gerous or injurious to the public health" such a state of affairs as I have seen and told you about, is an insult to common sense and decency. The phrase is out of date and should be eliminated. It is all very well to see that the rights of private property are conserved, but "the right of property must not be carried to the extent of legalizing an attempt on the life of one's neighbor."

In concluding, I would insist upon the failure of all plans and expedients for the abolition of insanitation from among the common people which have not as their point of concentration the education and enlightenment of the heterogeneous mass of humanity, which forms (especially in this young Canada of ours) the substratum of society. Such education must, above all things, be practical and useful. It will not be possible to do very much for the older generation brought up in ignorance of health laws "in whose brains the useless matter, accumulated when they were children, stagnates for a lifetime."

The greatest amount of betterment could be accomplished probably by regular and systematic instruction in the homes on the care and feeding of infants; cleanliness and general sanitation; the handling of infectious disease, etc., by women health visitors, trained and specially adapted for such work.

Our chiefest concern is with the children, the rising generation. We should aim first of all to create a strong and healthy race. This can only be achieved by providing proper surroundings in addition to plenty of good food and proper clothing. It is essential also that in all cities there should be within reasonable proximity to the homes of children play-

ing fields and recreation grounds. In rapidly growing cities this can be secured at a moderate expense if the necessary steps are taken before development has proceeded too far. Only by contrasting the physical condition of boys brought up in the congested areas with those in boys fortunate enough to have access to the athletic grounds of a large private school, for instance, can we form any conception of the mischief brought about by denying to the youth of our cities opportunities of getting to a patch of green turf.

The home life of our boys and girls should be surrounded by conditions as favorable as possible. "School life should be a supplement to home life and not home life a supplement to the schools." Education should be a process commensurate with the meaning of the word—a leading out or development of the natural capabilities of the child and not a cramming in of things that can never be of any use, anywhere or any time. Surely in the obtaining of knowledge it is important to know something about the instruments of its acquisition and is incumbent on school master and school mistress to know hygiene and to be able to impress upon boys and girls some information about eyes, ears and teeth, etc., together with simple rules such as their intelligence can grasp for their own care and preservation. "The object of life is to be happy and to make others happy. The true basis of happiness is health. A healthy people will work and serve themselves and the community. Health and work insure morality. It is not a question of making rules and inventions, to heal and cure, the real issue is to make the conditions of life such that disease, deformity, weakness, should no more exist."

## THE FACTORS IN THE SPREAD OF ACUTE INTESTINAL INFECTIONS

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When one reviews the literature of 20 years ago, dealing with the sources and spread of typhoid fever, cholera, the dysenteries, summer diarrhea, etc., one is

shocked by the condition of ignorance then existing, but cheered by the comparatively immensely advanced state of knowledge of to-day.

Twenty years ago environmental sources of disease were almost wholly studied, despite here and there a passing reference to the possible importance of the discharges of the patient. The soil, its topography, geological structure, chemical composition and temperature, the atmosphere and the water supply, the house, the clothing, the food and drink—every environment of the patient, the earth, the air and the water were searched, analyzed and speculated about. Nothing was left uninvestigated in this search for the sources of infection, except the patient—nothing overlooked except the only real habitat of the disease. The ingenuity of the experiments devised, the devotion of the students, the immensity of the task to which they addressed themselves in this, as we now know, utterly hopeless search for the sources of disease in all the places where they were not, stagger us in these days while bringing forth admiration, sympathy and pity.

Complicated, difficult, uncertain that search, unsatisfactory, hypothetical, vague those conclusions—we may be thankful that we to-day live amongst more tangible facts and are able to take more direct and practical measures. Unfortunately the afterglow of these old researches is all that the public of to-day know.

The search for the sources of most of our intestinal infections has ended with the simple finding that the intestine itself is the source—the intestine transferring its contents by a sort of gross heredity from person to person. The dicta *omne vivum ex vivo—omne cellula e cellulae* may have added to them, so far as the infectious diseases are concerned: *Omnes morbi ex morbo*.

The routes of these diseases may also be as readily stated: *Ad os per ano*.

In brief, the source of the acute infectious intestinal diseases is the infected person, the *muestrua* are his discharges, and the routes of transfer are simply the routes of the discharges from the intestine to the mouth.

The modern problem of administrative public health may be divided into:

(a) Finding and controlling the sources, i.e., the infected persons, whether these be frank cases, mild or atypical cases or well persons.

(b) Finding and controlling the routes

of spread from these persons.

(c) Supervision of the ordinary routes of transmission of the ordinary body discharges.

Could all sources be found and controlled, that would alone be sufficient; could all routes of spread be found and controlled, the sources need not be dealt with. As nothing human is perfect, however, it is almost always necessary to search for and control both the specifically infected persons and the specifically infected routes, and, in addition, those well-known general routes which body intestinal discharges usually take, even though no known specific infection can be directly traced to them.

In no disease is the value of the search for the sources of infection, i.e., the infected person, better illustrated, so far as acute intestinal infections are concerned, than in the search for carriers of cholera in port quarantine of vessels. Here almost ideal searches for sources can be carried out, and with almost ideal results.

Could similar searches be carried out for typhoid fever, dysentery, etc., the returns would be large, but public opinion would not permit the operation of procedures analogous to wholesale port quarantine, with stool examinations, in these less dreaded diseases.

Especially is this true in ordinary municipal or rural public health practice and in dealing with the ordinary infectious diseases. Only occasionally can intestinal diseases be investigated in such a manner as to pick out bacteriologically the mild cases and carriers, although in diphtheria outbreaks in schools this has been frequently and very successfully done in a very great number of instances.

The routes of spread of the discharges of acute intestinal infections must, therefore, receive particular attention. Since the detailed wholesale bacteriological search for carriers administratively possible in cholera usually cannot be carried out in typhoid and dysentery, the lack of specific bacteriological information as to the whereabouts of the infected individual (outside of the frank, early, mild, convalescing and atypical cases, which can be detected clinically) must be met by a general suspicion of all those exposed to infection. Hence the first administrative step in these

diseases is to find and control so far as may be not only the frank, mild, early, convalescing and atypical cases, but those in intimate contact with them—nurses, chums, business associates, etc. Such control being based on suspicion only, must usually be limited to supervision and advice in the milder cases and suspected carriers.

Specific individual routes of spread likewise can rarely be definitely incriminated in an epidemic of typhoid or dysentery, although the general methods chiefly in operation can usually be detected. General supervision, and advice regarding these can alone be given. Where a specific water supply, an individual milk supply, a definite outdoor toilet, etc., can be shown a likely halfway house on the route from intestine to mouth, appropriate measures may be taken. Ordinarily, however, the assumption that infection may attempt to follow any of the individual representatives of these routes should be made, and, therefore, precautions such as would take care of infection if it applied for passage by those routes, must be instituted. Usually no one can say that this fly is infected and that one harmless; hence all flies must be excluded. To allow normal persons to continue to place their discharges in milk, as they did before the epidemic began, can work no unusual harm; but when infected persons cannot be definitely identified, all discharges should be excluded from milk. The steps to secure the exclusion of all human discharges from milk are considered onerous and troublesome, for milkmen do not wish to wash their hands or eliminate flies. But the innocent must suffer with the guilty. It is better to exclude the discharges of a hundred uninfected milkmen from milk, than to admit the infected discharges of one. Yet having done all this, the safest plan is to use heat sterilization of milk also.

Water supplies likewise should be protected from the discharges of the general population—not because such discharges when normal are objectionable to the public, but because infected discharges may at any time enter with the normal ones.

To many minds, the protection of public alimentary utilities like water and milk

from all human discharges, in order to exclude the occasional—very occasional—harmful discharge, appears as unfair and unjust—as unjust as Herod's wholesale slaughter of the innocents in order to secure the Christ. Moreover, as they point out, Herod's slaughter went for nothing since he missed the one important child, whom alone he wished to slay. So our precautions against excluding wholesale human discharges from public alimentary utilities sometimes succeed only in excluding a great deal of harmless material, while the small amount of really harmful material slips by some other way. In this, as in all other public health measures, eternal vigilance is the price of safety. When concentrated upon the sources of disease, rather than upon its routes of spread, such vigilance yields its largest returns.

The spread of acute intestinal disorders may be considered administratively as divided into two important groups.

(a) Local spread.

(b) Geographical spread.

Both have as their essential factor the spread of infected discharges. Geographical spread is only local spread writ large.

Local spread, I define as that dependent on transport of infection directly from a given infected intestine. Geographical spread as that dependent chiefly on the transportation of the infected intestine itself. The former may occur by means of food, fingers or flies. Food is here used to include water and milk. There is no difference, other than quantitative, between the local spread of typhoid fever, of cholera, of the bacillary dysenteries or of summer diarrhea, except that in cholera the intestinal discharges are reinforced in spreading the disease by the help of the cholera vomit, which in quantity and in projectile force, rivals even the cholera stools. Undoubtedly a great factor in the greater rapidity and intensity of local cholera transmission as compared with local typhoid transmission, is this one item of the more rapid and uncontrollable evacuation of infective material from *both mouth and intestine*.

So far as expelling successive dangerous discharges are concerned, the cholera patient is to the typhoid patient as a Gatling gun is to an old muzzle-loader.

It is true that cholera is probably qualitatively also more dangerous, i.e., that a smaller dose of the germs will precipitate an attack in cholera than in typhoid fever. Even the much shorter duration of a cholera case does not offset its greater activity as a distributing centre for infection, for a hundred cholera discharges to be cared for in two or three days offers a much more serious problem to the nurse than a hundred typhoid discharges to be cared for in a week. The chances of proper sanitary care in the latter case are immensely better than in the former.

Finally, it is not unlikely that cholera may spread by the mouth spray, during the explosive ejections of vomitus or even in talking or coughing, after vomiting.

Unquestionably the routes of the local distribution of cholera are the same routes already so familiar to us in the distribution of typhoid fever—the discharges upon the nurse's hands going to the nurse's mouth and to the eating utensils, food and drink of the family—the undisinfected discharges on laundry seeking similar oral entry by way of the laundress' hands—the carriage by flies of discharges from exposed bedpans, etc., the contamination, perhaps, of wells through the soil or by surface drainage; by washing of bedpans at the pump and back drip through the curb into the well; through discharges placed upon the pump handles by infected hands, and transferred thence to the next pump handler; through the priming of pumps by infected water from the patient's house; through the milk to the neighbors supplied by the family cow, milked by some member of the family between stools, etc.

Of course, the greater fear of cholera may operate to make nurses and attendants more careful than they are in nursing typhoid and also to keep the neighbors away.

(b) Geographical distribution. The factors in geographical spread of all acute intestinal infections are again the factors concerned in typhoid fever—the infected person, in the incubation stage, in the convalescent stage, in the carrier stage, or even the frankly sick case, moving from one place to another. Also the infection of surface water supplies with discharges, carried down stream; possibly infection of milk or butter shipped to a distance, of exported fruit infected by handling or flies, etc.

As in typhoid fever, so in cholera, the transportation of infected intestines is far more serious than any other form of long-distance transmission.

Acute intestinal infections being a unit, qualitatively, in their methods of spread, dysentery, summer diarrhea, etc., show the same methods of geographical distribution. Quantitatively, their spread is influenced by the amount, kind and frequency of the discharge, the supervision or lack of supervision of the infected person, the intelligence or lack of intelligence of those having to do with him and his discharges, his personal habits, and, finally, mere accident—the accident of contact or of deposit of discharges, of soil, of temperature (especially as regards fly carriage) and of sunlight, where surface water supplies are concerned.

In all infectious intestinal diseases, as in all infectious diseases of every kind, the infectious person is the key to the situation; the sociological condition of the community into which he enters is the lock. The spread of infection is merely an index of how well the key fits the lock. Public health officers must study both, to prevent any fitting of the key with any part of the lock: that is, to prevent the infectious discharges of the infected person from connection at any point with the receptive channels in the community, through which the infection may act.

## SANITATION IN RAILROAD CAMPS

BY H. G. NYBLETT, M.D.,

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The subject of Sanitation in Railroad Camps is one that has had very little attention paid to it.

It was, I believe, taken up in a superficial way some little time ago, but has been allowed to drop. There is no doubt

that this is one of the most important details to be taken into consideration in the prevention of disease in the Western Provinces, and yet it is nobody's business, and, therefore, no one pays any attention to it. It is well known that the men who work in the construction camps and in the extra gangs are "Drifters" here to-day and away to-morrow, living in the most unsanitary manner in crowded sleeping cars, with no sanitary conveniences and spreading disease wherever they go, the majority of them are from the countries of Southern Europe and are uneducated, knowing nothing but dirt and overcrowding.

The medical men who attend them are paid to look after them in sickness, but not in health, and they and the railroad companies do not appreciate the fact that it is to the interest of both to keep the men free from disease.

The question is, what can be done?

The answer is, Everything.

It can be done at a very small expense to the companies, and is both simple and efficacious.

A railroad company is like a government that has declared war on a neighboring State. It has its army which is composed of the staff, the cavalry (the men who survey the new lines), these are continually on the move. The infantry and the engineers who build the roads, the army service corps and the ordnance corps are both represented, but where is the Army Medical Corps whose duty is almost more to prevent disease than to cure it.

There are probably 20,000 men in Western Canada who are working at construction work. It would be interesting to know if there is one medical man who has been trained in field sanitation, whose duty it is to see that these men are looked after in such a way as to give them a chance to escape disease.

I have never seen a camp yet where there was the slightest attempt made to keep it sanitary, but nearly everyone is a disgrace to a country that calls itself civilized. Only a few days ago a conductor told me that they are continually being asked to shift the boarding cars along the sidings when the odors became too strong. There are frequently no latrines, and if there are any they are merely an apology for decency

and are not built with any regard to sanitation.

The cook car slops are thrown anywhere and flies are swarming from the latrines (if there are any) on to the men's food, with the result that the hospitals are filled every fall with men from the construction camps and from the extra gangs.

Imagine an army of 20,000 men without any sanitary officers!

The average boarding car has a cubic air space of a little over 1,500 feet, and in this space sixteen men sleep who have no idea of cleanliness. Each man has approximately one hundred feet of air space. Section 141 Public Health Act of Alberta says: "Every house, tent, or other building occupied or used by the employees of any camp or mine, shall contain at least 300 cubic feet of air space for each occupant thereof, and shall be properly constructed, lighted and heated." Is it any wonder that there is sickness among the men, especially when one considers that men are employed and sent to live in these crowded cars without any physical examination to find out if they are free from diseases (such as tuberculosis). Every medical officer of a railroad company should inspect the camps or boarding cars ever so often; they should hold the foremen of the outfit responsible for the cleanliness of the outfit, under certain penalties; the medical officers should have a training in field sanitation, such as is given to the officers of an Army Medical Corps, and they should be in a position to insist on satisfactory sanitary arrangements being made.

I have been told by men that they have seen two inches of dirt and grease on the floor of the cook cars. This could not occur if there were some one held responsible for the cleanliness.

If it were the place of the medical officers to look after such things the condition of the men from a sanitary standpoint would be much improved, there would be far less disease among them, and not only this, but there would be far less chance of spreading disease through the communities in which they are working.

Portable flyproof latrines should be built and incinerators made for the disposal of the refuse, etc., and the whole system should be run on the same principal as

that of an army with, of course, the necessary modifications, which it would take a little time to develop. By taking such steps, I believe that disease could be cut down fifty per cent.

We know that there is bound to be some overcrowding, but ventilation and cleanliness would mean a great deal, and the cost of the latrines and incinerators, if built as I have in mind, would be so small that it would never be felt by the companies.

The C.P.R. have taken a step in the right direction in the formation of ambulance classes; let them go a step further and prevent their men from getting sick, and show the other companies that they are in the lead in all matters connected with the health of their men.

In medicine, the day has come when the work of the medical man should be that of prevention of, even more than of the cure of disease. The work of the Japanese in the Russo-Japanese War, and the more recent U.S. manoeuvres, show what can be done in the army, and the same applies to the railroads.

Is it not "up to" the companies that employ men by the hundreds of thousands to help this out and to show what they can do to prevent disease among their own men?

Since writing the above I have received through the courtesy of a prominent railroad official, a copy of the Sanitary Regulations of his company.

In these, provisions are made for pits for latrines and refuse pits, and for the covering of the same each morning with a mixture of sand and lime.

These are good regulations in themselves but do not go far enough, and unfortunately are not carried out in the way they should be. The main thing appears to be to teach the foremen the necessity of enforcing this work and of having some one over the foremen to keep them up to the mark. The Chief Surgeon is probably the only one who devotes his time to railroad work, the other surgeons are doing private practice and cannot devote the requisite time, while as far as the Chief Surgeon's work goes, he cannot cover his district as an inspector, his work is to give the orders and appoint some one to carry them out.

In the Army Medical Corps there is the Administrative Officer, he has his Sanitary Officer under him, and then we come to the Regimental Medical Officers and the officers of the Field Ambulance, who are all medical men. If this is necessary in a compact camp, how much more is it necessary in a number of scattered camps, and while in the army all the men are more or less trained in sanitation in the railroad camps none of them realize the necessity for care and cleanliness.

In the letter I received from the above mentioned official I am pleased to say that he says: "I intend this year trying to effect some further reforms in the matter of camps where extra gangs are employed."

## AN IDEAL WATERWORKS SYSTEM FOR A SMALL TOWN

BY F. McARTHUR, B. Sc., C.E.,

MUNICIPAL ENGINEER OF YORKTON, SASKATCHEWAN.

The limits to the growth of any town or city are largely determined by the amount of good, pure water which that town or city is able to obtain. Especially is this the case in the Prairie Provinces of the Dominion, where many municipalities have difficulty in securing a water supply at all. Hence, one of the first important works to be undertaken by a progressive town is almost invariably the installation of a waterworks system.

The two main points to be considered in connection with a domestic water supply are the quantity obtainable, and the quality. The second, if necessary, may be obtained by artificial means, but the first must be secured from one or more of the various natural sources.

When an adequate supply of water suitable for domestic purposes has been found, the most suitable waterworks system depends largely upon local conditions. In

the majority of cases, pumping is necessary, but the efficiency of the plant is very materially affected by utilizing the potential energy due to a head of water. Hence the advantage of water stored at an elevation.

A municipality which has a high hill conveniently located, upon which a storage reservoir may be constructed, is very fortunate, but in a prairie country these conditions are rare, and artificial means for storing water at an elevation must be resorted to. This is usually obtained either by the stand pipe or elevated tower.

While in the case of cities the chief function of the standpipe or water tower is to establish a comparatively constant working head and relieve water hammer, yet in the case of towns, one of their most important functions is the elimination of continuous pumping.

A new system of waterworks has lately been introduced into Canada, which possesses all the advantages of a stand pipe system and is superior in many respects. This system is generally known as "The compressed air system."

The first plant of this description to be operated in Canada was installed at Yorkton, Sask., in 1908, and there are now some eight or nine other plants either in operation or in the course of construction in the Provinces of Saskatchewan and Manitoba. This system is simply the application of an old principle on a large scale, and, in the opinion of the writer, is the nearest approach to an ideal waterworks system for a town or small city. A description of the plant at Yorkton will give a general idea of the workings of the compressed air system.

In Yorkton the water supply is obtained from two large wells, each 17 feet in diameter and about 40 feet in depth. These wells are situated just to the rear of the pump station, and the water rises to a sufficient height to permit direct pumping from the wells into the distributing system. The water is struck in a quicksand stratum about 27 feet below the surface of the ground. This quicksand is about 16 feet in depth, and immediately beneath it is a 6 ft. stratum of coarse gravel.

The pumping station is a brick building 60 feet in length and 40 feet in width. The pumping plant consists of two Fairbanks-

Morse 32 H.P. gasoline engines, two Fairbanks-Morse half-million gallon double-acting pumps, one Fairbanks-Morse 10" x 10" double acting air compressor and two steel pneumatic compression storage tanks.

Both engines and machinery are belt-connected to a line shaft, and by means of clutch pulleys, either engine may be used to drive either one or both pumps, as well as the air compressor, thus making a duplicate plant.

The storage tanks are cylindrical in shape, having a diameter of 9 feet and being 38 feet in length. They are constructed of rolled steel of 60,000 lbs. tensile strength. All horizontal seams are double riveted; all girt seams single riveted and heads staggered riveted with  $\frac{3}{4}$ " rivets. The body sheets are  $\frac{3}{8}$ " and the heads  $\frac{1}{2}$ " in thickness. The tanks are subjected to an air test of 125 lbs. per square inch, and guaranteed to stand a working pressure of 65 lbs. per square inch. Each tank is furnished with a pressure gauge and water glass. A manhole in the lower quadrant with an airtight cover provides an access to the interior for cleaning or repairing. The tanks are placed in the power house, one on each side of the engines and pumping machinery. They are connected direct to the pumping main by 8" cast iron pipe, each connection being furnished with a gate valve so that either or both can be shut off from the pumping system should it be desired at any time to do so. The air compressor is connected to the tanks by  $2\frac{1}{2}$ " wrought iron pipe.

On commencing to operate the system, air is pumped into the tanks until a pressure equal to about the minimum allowable pressure on the distributing system is reached, care being taken to have sufficient water in the bottom of the tanks to prevent air getting down into the water mains. When this pressure has been reached and the distributing system of mains filled with water, the valves in the branches connecting the tanks with the pumping main are opened and the tanks put in direct connection with the whole system. As pumping continues, water is forced up into the storage tanks, compressing the air above it and raising the pressure on the whole system accordingly. When the pressure has reached about 65 lbs., pumping is stop-

ped and the water stored in the tanks is forced into the distributing mains by the expansion of the air. This is allowed to go on until the minimum allowable pressure is reached, when pumping is again resumed and the pressure raised. The same air is continually utilized, and the air compressor, after the first operation, is only occasionally required to replenish the air lost on leakage or absorbed by the water. The variation in pressure can be regulated to any range within certain limits. For instance, if  $V$  = volume of the tank, and  $v$  = the maximum volume of water stored, then  $V - v$  = minimum volume of air. If the pressure, when containing the maximum volume of water is  $P$ , and the minimum pressure is  $p$ , then

$$\frac{p}{P} = \left(1 - \frac{v}{V}\right). \text{ If } \frac{P}{p} = \frac{30}{65} \text{ then}$$

$$v = V \left(1 - \frac{30}{66}\right) = \frac{7}{13}V.$$

The distributing system in Yorkton at present includes about four miles of 8", 6" and 4" cast iron water mains, with about sixty fire hydrants. The population of the town is about 3,000, and yet the average pumping for the year is only about three hours out of the twenty-four, the compressed air tanks furnishing the supply and pressure during the time the pumps are not in operation.

The compressed air system has many advantages over a system in which a water tower is used, whether it be an elevated tower or the stand pipe type, especially in a prairie country and in extremely cold climates. In the prairie provinces the majority of places are not favoured with a natural elevation upon which to locate a water tower, and consequently the head upon the water mains established by the water tower is limited to its height. The average stand pipe for a town is not usually over 80 feet in height, and consequently the maximum pressure at its base is only about 34½ lbs., and this pressure materially decreases as the water lowers. Hence, if a higher pressure is required for fire purposes, the stand pipe must be shut off from the rest of the system and the water stored therein is of no immediate use.

Now, in the case of the compressed air system practically every gallon of water can

be utilized under an effective pressure, since if the quantity of water is limited, the pressure may be raised by pumping more air into the tanks.

The point might be raised that the storage capacity of the compressed air tank is small compared with that of a stand pipe, but only a small volume of the upper portion of the stand pipe is really available under effective pressure, while every gallon of water in the compressed air tank can be utilized under a comparatively high pressure. This is quite a consideration where the water supply is limited. I might cite an example to illustrate this: The water supply in Yorkton becomes quite limited during the months of January and February, and last year a fire broke out during the time of the water shortage. The pumps were immediately started, and as they were throwing more water than was being used by the hydrants, the tanks were gradually filled. However, before the fire was extinguished the water in the wells was exhausted and the pumps had to be stopped. The engineer then turned on the air compressor and by pumping more air into the tanks kept up the fire pressure and by the time the fire was extinguished had utilized practically all the water that was stored.

In extremely cold climates the protection of stand pipes from the frost is quite a problem, while the compressed air tanks, being stored in the power house along with the machinery, require only the heat usually kept up in a pumping station to keep them from freezing.

Where the compressed air system is used, the water is absolutely free from outside contamination from the time it enters the pumps until it is delivered at the faucet, while considerable filth is very often collected in a stand pipe, especially an open one.

In short, the compressed air tanks are merely a substitute for a stand pipe or water tower, and two tanks such as are in operation at Yorkton can be installed for about \$1,200 to \$1,500 each, which would not be very far towards building a stand pipe; and the storage capacity of a compressed air system is merely determined by the number of tanks used, and the size of each.

## SIX WEEKS OF EARLY SPRING BLOOM

BY RACHEL R. TODD, M.D., C.M., TORONTO.

There are many important points to be considered in planning a garden bed of bulbs. First there should be a familiar acquaintance with the characteristics of each variety, its likes and dislikes as to soil, situation, shade and light, moisture, and its period and length of blooming. Every plant has a character and gracefulness of its own, and when surrounded by a variety of similar plants, all equally graceful and interesting, the beauty of a well-arranged bed or border, rockery or shrubbery cannot but command admiration from the most careless and least observant passerby.

To have your garden a really successful one it should be so arranged as to give the greatest amount of bloom obtainable by every conceivable experiment, and to have the different varieties follow each other so closely that no unsatisfactory gaps are left in the succession of bloom. And to arrive at this happy result, one must know just what to expect from the various bulbs and plants chosen. One cannot, however, always reach this conclusion in a single season, although by taking the advice of experience one can still be very well satisfied.

The first thing is to make a judicious selection. And here is the difficulty. How to do this from the ordinary catalogue is a perpetual mystery. Besides the catalogues do not always tell the truth. How can they? How could any catalogue understand and allow for, the differences in soil and situation and exposure of the millions of gardens, to say nothing of the individual characteristics of each amateur gardener, and the impossibility of sometimes establishing a bond of sympathy between him and an antagonistic plant.

Perhaps you, my reader, will laugh at this last statement, but if you are a flower lover you will know of some plant that, in spite of all your blandishments, refuses to grow well for you; or even refuses to grow at all. How many times I have planted Fuchsias for example, in vain. They commit suicide before my very eyes sooner than live with me.

Let me repeat again, that in order to have an unbroken succession of bloom (and

it can be obtained) one must know intimately, if possible, the varieties chosen; and one must know, too, which situation in the garden is the most suitable as regards soil, drainage, and exposure. One may have to experiment for a season with new sorts; these should hardly be used in your permanent beds until such time as they are intimately known, because one unsuccessful variety in an otherwise perfect bed spoils the whole plot.

Now I am going to tell you what bulbs and roots to choose to have six weeks of straight gorgeous bloom before the Crocus appears. That means a great deal, my dear gardener. It means six weeks of bloom before the ordinary everyday person commences even to think of spring flowers, because the ordinary everyday person thinks the Crocus is the first spring flower to appear. Not so.

How many people know that dainty Snowdrop need not be alone in its early spring jaunt. How many people know that Snowdrop may have a number of companions as dainty, as delicate and as refreshing to the eye and mind as itself. Not many. But it is delightfully true nevertheless.

There are two very essential points to bear in mind regarding these early Spring bulbs, and unless attention is paid to these points, very indifferent success will be attained. A very general impression seems to prevail that any time about November is suitable for the planting of the bulbs. On the contrary, no greater mistake can be made. They should be given plenty of time to form good strong roots before the arrival of Winter, and also to make all necessary preparation *within themselves* for the Spring bloom. Some require a longer season than others to perfect their roots, but in every case sufficient time should be given so that growth is thoroughly established before Winter sets in. To accomplish this result, September, and even the last weeks of August is not too soon to plant. If you have been in the habit of planting late in October and November take this advice and you will be astonished at the strong and luxuriant bloom obtained.

The second important point (and it is

most important with especial regard to the Spring bulbs presently to be described) to be remembered is the fact that these bulbs once established should not be disturbed for several seasons. They one and all resent undue interference after they have become settled. A situation should therefore be chosen that will not be required for later plants. Chose, then, rockeries, the edges of your lily pond, around the trunks of trees and shrubs, the sod being cut away in wide circles, for that purpose. In such situations as the latter they may be massed with great effect and since the snow and ice usually disappear from beneath these shrubs and trees earliest in the season these bulbs have an early opportunity of showing. In outside borders, planted thickly in double lines, the effect is also excellent.

*Six Weeks of Early Spring Bloom:* Now here is my list of early flowering Spring bulbs. These I give to you, my readers, knowing each and every one of them. They have been with me for many years, and on the information I give you, you can place absolute reliance and act accordingly. You will not be disappointed in one single instance, and I shall name and describe them in the order of bloom as nearly as possible, although in most cases the season of bloom overlaps.

The Adonis, or Flower of Spring, often called Oxeye; *Bulbocodium Venum*, Winter Aconite or *Eranthus Hyemalis*, Snowdrop, *Chionodoxa* or Glory of the Snow, the Snowflake or *Leucoium*, *Scilla*, Grape Hyacinthe, *Muscaria*, *Anemone*.

Now is not this a delightfully gorgeous and plentiful list to choose from, and each and every one blooming away as merrily as you please before the *Crocus* opens its yellow and purple eyes.

Now one of the first of all this lovely troop to appear is the Adonis, or Oxeye, growing bravely right out of the snow. Its foliage is a delicate feathery green of the palest, and it sends up to a height of some ten or twelve inches thin graceful stalks of deep golden starry flowers. It is very hardy. There are a number of varieties of this bulb, some a little taller than others, all blooming from February into late March.

Planted along with the Adonis, that charming little dwarf, *Bulbocodium Venum*, which with its cunning rosy purple flowers hugging the ground, looks so much

like the *Crocus* with its lance-shaped leaves. It, too, loves a sunny rockery or makes a dainty edging or border. Anything more striking than a mass of these unusual golden spikes issuing from a cloud of misty green foliage, set off with a double line of rich glowing violet is hard to find. *Bulbocodium Venum* is a sturdy young thing, never two minutes the same.

One of the very first flowers to greet us in the New Year is the vivid Winter Aconite or *Eranthus Hyemalis*. Like *Bulbocodium Venum*, it is a dwarf of scarcely more than four inches in height, very hardy, very adaptable; continues in flower several weeks, and, when once seen in all its golden modest beauty peeping from beds and borders set in a sea of lovely fresh Spring grass, the sight will not soon be forgotten. In sunshine or in shade, in City or in Country, it is a treasure no garden can be without.

The Grape Hyacinth or *Muscaria* gives off a most delicious lingering musk like fragrance. I cannot say I admire this Spring flower for its form. It is not graceful. It is stiff, very stiff, but it is odd, because it has no foliage to speak of. It has gained great popularity on account of its brilliant coloring (every hue of the rainbow being obtainable), its hardness and adaptability, its great profusion of bloom and the earliness of its appearance. Simultaneously with Adonis, Aconite and *Bulbocodium*, it appears, blooming on and on long after the other early bulbs have faded, and this fact makes it a valuable addition to our stock of spring bulbs. Each slender stalk bears numbers of fat little grape-like bells adhering closely to the central stem. There they stand, stiff little sentinels, like little soldiers on guard, scarce bending to the passing Spring breezes. My store I planted some seasons ago around various tree trunks, the sod having been cut away in circles for the distance of a foot or more from the trunks. I put them in with a free hand, blues and pinks and reds and whites, and outlining each circle I planted Winter Aconite to form a golden frame, and in some cases the yellow and white varieties of *Crocus*, which I found to be earlier than the ordinary *Crocus*. I have heard of a yellow variety which, however, is rare and not so hardy but exceedingly fragrant. There is also a feathered variety, like a fairy plume, which remains in perfect

bloom for quite four weeks.

The most ideal spots to plant these bulbs, I think, is around the roots of trees and tall growing shrubs, and to give the best effect they should be massed thick and left undisturbed for years.

And now we come to that incomparably graceful harbinger of Spring, the Snowdrop, whose appearance is as welcome as the first gay breasted robin. Who can deny that it is first favorite, its hardiness, quiet beauty, and never failing early flowering propensity placing it easily ahead of all bulbs.

With a refined beauty to itself its appearance is watched for with an eagerness and delight that only the true flower lover can really fully know. There is an indescribable something about the pale fragility of this little green tipped snowy bell that appeals to us as no other flower ever does.

The majority of people regard the Snowdrop entirely as a Spring flower, and so, just a word in passing to tell you that of late years one or two winter species have been discovered which, although quite as hardy as the first mentioned species, have not yet become popular. Also it will be surprising news to many to hear that a yellow species exists which is quite fragrant, but as yet too new to be popular. Whether one sees the Snowdrop alone or in company with some of those other Spring beauties already described, the Aconite, Adonis, Grape Hyacinth or grouped with the Scilla or Chionodoxa, which I will presently describe; in bed or in border, in pot or in window box, on the rockery, under the spreading branches of the trees (but never scattered through the grass, by the way; they do not show so well thus), they are always equally beautiful. It is only a few years since we had to depend entirely on one variety, but now the choice is as great as in the other early bulbs, so that the season may be extended from February to late April, according to the severity or earliness of the season.

Unlike most spring bulbs the Snowdrop cannot be forced. To attempt to do so is fatal both to the plant and to your hopes.

Almost a twin sister to Snowdrop, is the Snowflake, or *Leucoium*, and is a valuable addition to our collection, for not only are its flowers produced very early in the season, but they are deliciously fragrant and extremely hardy, the stalk reaching a

height of quite ten inches (taller you see than the beautiful pink tipped snowy bells, rather larger than the Snowdrop). The whole genus is a valuable one practically covering the entire year in the flowering period, and thus helping to prolong the show made by other bulbs. To realize any sort of successful effect, however, they should be planted in vast numbers in well drained sandy soil. When planted with a free hand in the Snowdrop group the effect is magnificent. It is a decidedly handsome variety, its long stalk and violet-like odor rendering it a gem for bouquets. It should be much more widely known than it now is, because it has many attributes that render it an especially grateful prize to every flower lover.

And now we are getting on into early March, and with March comes two splendid blue bulbs, the Scilla and the Chionodoxa with real blue flowers. Blue flowers are among the rarest, and to some, most desirable of all others. Many beautiful intense blue shades are to be found among the various Scilla sorts. The Scilla is familiarly called the Wild Hyacinth, and to this family our native Bluebell belongs. Like many other Spring bulbs that have been cultivated so assiduously of late years, the varieties are legion, exceedingly easy of culture, profuse bloomers, and manifold in their uses.

If we except the Crocus and the Snowdrop, there are no bulbous plants more familiar or more vastly appreciated than the Squills (another name, by the way). They make a bold and beautiful show no matter in what manner they are used. Every species differs both in the size and form and color of the flower and disposition of the Spike. One sort sends us a hardy shaft bearing from six to eight brilliant single and double bells; another variety produces hundreds of dazzling sky blue stars, each on a single stalk, another plant proudly rears a noble truss of darkest blue. Bell like, ball like, star like, the colors ranging through all the tints of blue, from faintest lavender to blue-black balls; some stripped, some spotted, some tipped. What a feast of color and form if one might only have them all! !

A great favorite is *Scilla Siberica*. This is a large bulb comparatively speaking, which sends up dozens and dozens of star-shaped intense royal blue flowers, each

borne on a single slender green thread of a stalk until the dark green foliage is entirely hidden, making a blot of color from one to two feet in circumference. One cannot forget that living blue. The bloom remains unchanging day after day until oftentimes quite four or five weeks have passed.

In a border planted close in a single line around a bed of Snowdrops, outlined with a circle of golden Aconite, the Scilla Peruviana, with its sturdy trusses of marvellous blue, makes a line of color that catches and fascinates the eye from a long distance away.

These bulbs should be planted in late summer and if an unique lawn picture is desired for the following Spring, just plant Snowdrops, Winter Aconite, Crocus and Scilla, choosing three or four varieties of this latter and watch the result.

Do not forget in passing, Scilla Verna, a charming, sweet-scented lilac flower, growing about six inches high and especially adapted for the rockery.

The other blue flowering bulb I mentioned a moment ago, Chionodoxa, or Glory of the Snow, is a visitor, they say, from far off Smyrna, closely allied to the Scilla in habit. It is exceedingly hardy, very early, blooming from late February on. A mountain flower fast becoming known and destined to be one of the most popular. Gorgeous is the only word I know of, in the English language that even commences to give some idea of the intense and striking brilliancy of its sumptuous beauty.

I have had my bulbs one season only, and I must confess, that for profusion of bloom, the Chionodoxa is easily the most luxuriant. The plant is really all flower. The bloom is produced in long graceful racemes of from a dozen to eighteen bright blue, six-pointed stars, with startling centres of white. The bloom is larger than the majority of Scilla, often being quite one and one-half inches across. Just imagine a line of these glaring white eyes, peering at one from a bed of vivid blue. The effect is not only bizarre; it is positively uncanny.

These bulbs, too, like nearly all the others described, may be used in a variety of ways. These, too, should remain undisturbed for several seasons. The richest effect is obtained by planting a small group say from six to ten, among a contrasting clump of

other flowers, preferably the Snowdrop or the Snowflake. The ordinary eye does not tolerate too great a display of this peculiar flower. On the rockery, along the sides of your Lily pool (because over much wet does not seem to be at all detrimental to them) or even in the shady corners of your fern beds, they appear quite as early as late February, the season being favorable. Finally, they perpetuate themselves freely by seed, which is most unusual among bulbous plants.

And, lastly, let me draw your attention to that daintiest of all flowers, the Anemone, or Wind Flower. Now the Anemone is not strictly speaking a bulb, although it is in many catalogues classed with them, and for this reason, I have mentioned it in my list. The genus to which it belongs is such a vast one, and hardy to such a degree, that no garden should be without a couple or so chosen from the dozens of species. The flowering season of the many varieties extends practically the whole year round, and one should have little difficulty therefore in choosing those suited to their own special needs. One of the most satisfactory things about this graceful plant is the fact that once established, it increases readily by seed or division. For general usefulness and pure beauty and luxuriance of effect no plant can equal it.

The varieties we shall consider, however, will be those early bloomers, and of these I can strongly recommend a few good old reliables, all of which, by the way, require deep rich soil, plenty of light and air and undisturbed possession of their own situation for some seasons.

Anemone Apennina, a variety that appears in early March, with a feathery green foliage and bright blue flowers, surpasses in chaste beauty anything for rockery decorations I have yet discovered. Anemone Fulgens, the Scarlet Windflower, should be planted in the fence corners, and under evergreen trees, the intense scarlet of its double and single cups shining out from the shadowy corners in a delightful fashion. One other variety, closely resembling the Poppy, may be used with splendid effect also in shady nooks, the common name Wood Ginger, making one think it a wild flower. This sort, Anemone Ranunculoides, is a glorious deep yellow, flowering early in March, very dependable, growing

quite ten inches in height and exceedingly luxuriant in habit.

Now these three varieties I name and recommend solely because I have cultivated them for so many seasons, and I assure you, my dear reader, if I were forced to give up some of my Spring Flowers, I would certainly retain my Anemones rath-

er than any of the others.

And now a resume of these Spring bloomers with their special seasons of bloom. From February on to late March—Adonis, Aconite, Bulbocodium; from early March—Snowdrop, Snowflake, Glory of the Snow; from middle March—Scilla, Grape Hyacinthe, Anemone.

## THE FARM WATER SUPPLY

BY FRANK T. SHUTT, M.A., F.I.C., DOMINION CHEMIST, OTTAWA.

There seems to be little necessity now-a-days to emphasize the vital importance of a pure water supply for our cities and towns. Thanks to the investigations of the chemist and bacteriologist and the collection of civic statistics during the last three decades, an intimate relationship between the quality or, more correctly speaking, the purity of the water supply and health has been firmly established and this relationship, thanks to the many and various ways we have in these days of easy publicity, has in a very general way been recognized by our citizens. The fact that outbreaks of typhoid fever in our large centres have, in many instances, been directly and indisputably traced to a common source—a polluted water supply—has served to win this general admission and made it comparatively easy for the authorities of our cities and towns to obtain large sums of money to procure an ample supply of wholesome, disease-germ-free water. And we further find in our more enlightened centres that the expenditure necessary for the systematic, periodic, scientific examination of the supply is considered a very wise one. In this matter of what I may call the scientific control of the water supply, I think this Association may do useful service by impressing upon our people and civic authorities that pure supplies may at any time, by accident or otherwise, become contaminated and that without a careful, systematic watch such contamination may remain unknown until too late—until the epidemic that will eventually follow is upon the citizens. My experience leads me to put great emphasis upon this phase of the question. If such a course had been in force there can be little doubt but that many severe typhoid fever epidemics in our cities and

towns might have been prevented.

But my purpose to-day is to speak of the water supply of the farm homestead, a matter to which as chemist of the Dominion Experimental Farms, I have given considerable attention during the past twenty-five years. And first I have to remark upon the general apathy among the rank and file of our farmers towards this question. It has been quite a difficult matter to arouse in our rural districts anything like the keen interest that is evinced by the inhabitants of cities and towns. In spite of lectures, bulletins and propaganda of various sorts our farmers as a class, are not yet fully alive to the value of unpolluted water for themselves and their families, for the health and thrift of their stock and the quality and wholesomeness of their dairy produce. Nor do they realize how easily and frequently certain forms of disease—diseases by no means uncommon in the country—are contracted by the use of a polluted drinking water. Perhaps this is not altogether to be wondered at, for hitherto the farmer's mind has moved slowly in learning and appropriating the teachings of science and the attitude "what was good enough for my father is good enough for me" is still to be found among those who are tilling the land. I would not, however, leave this phase of the question without recording a much brighter outlook for reform than existed twenty years ago. The good work of disseminating information is having its effect and the younger farmers, more especially, are looking more closely into the character of the water supply. Instances are becoming more numerous every year of farmers going to considerable expense to secure a good and ample supply—a supply beyond suspicion—and

pipng it for use in the farm house and for the watering of their stock. Hand in hand with this there is the putting in of a bathroom and the adoption of the septic tank system for the disposal of the household sewage. This is an encouraging sign of the times! I sincerely think that a better day has dawned and that those who may write on this subject ten years hence will have a brighter story to tell than that which I can bring before you to-day. But to secure this the work of education must continue. Indeed, there is no better time than the present to carry on a campaign for purer water on the farm; much of the preparatory work has been done and there is an ever increasing number of intelligent, thinking men going on to the land who will be willing to receive and act upon advice from those who are qualified to give it. In this good and very important work this Association may render most valuable assistance and I trust that we, who are practically interested in this problem, may have your hearty co-operation and assistance. When we remember that 60 per cent. or over of our population are upon farms, that the water supplies on these farms stand greatly in need of improvement, we shall realize there is a great field for useful, educational work—much of which I believe can very well be done by and through this Association.

Twenty-four years ago when I entered upon my present work, having then had some experience in the examination of water supplies, I became interested in the farmer's well and at once determined to make the investigation of the farm water supply one of the features of our work. Our authorities being agreeable, I was able to offer a free analysis and report on waters from farm homesteads, from creameries and cheese factories, provided the samples were collected and shipped in accordance with our instructions, that express charges on the sample were prepaid and that full information respecting the well and its environment were furnished. To ensure our receiving the particulars required for the proper interpretation of the analytical data, a form containing a number of questions is sent to each applicant, with the request that it be filled in and returned when shipping the sample. The result of this privilege extended by the Dominion Gov-

ernment has been the reception and analysis in the farm laboratories of several hundreds of samples each year. At first there was but little response, the farmers did not realize the importance of the information we could give them and the larger number of those who wrote for our directions did not send forward a sample thinking, I suppose, that the game was not worth the candle, that the trouble and expense in connection with the collection and shipment of the water exceeded the value of a knowledge respecting the real character of the water they were using. But as the years went by and our propagandic work on the subject became more widely appreciated the number of samples increased, so that now scarcely a week goes by without our receiving several farm waters for analysis. This I take it is every encouraging.

Our practice is to submit each sample that is forwarded according to directions to a complete sanitary analysis. A bacteriological examination is unfortunately out of the question, owing to the length of time that must necessarily elapse between the collection of the sample and our reception of it, for these waters may and do come from as far east as Prince Edward Island, and as far west as British Columbia. In our report to the sender we give the full analytical data followed by what is of more importance to the farmer, a fairly detailed discussion of the character of the water and the nature of its impurities, if such have been detected. It would, of course, be far more satisfactory if the water analyst could personally visit the farm and inspect the source of the supply, but that of course, is impossible in this work. We must bring experience to the task and carefully consider the data in the light of the information furnished. My opinion is that in very much the larger number of cases we arrive at the truth, but I confess we occasionally obtain results incapable of decisive interpretation.

Any detailed account of our analytical results and their interpretation is impossible in this paper, which, of necessity, is limited to a brief survey of the work. As, however, this material is to be found in the annual report of the Chemical Division of the Experimental Farms—the omission here is not a serious one. Reviewing the results obtained since 1887, we find that of

the waters so examined 30 per cent. have been classified as safe and wholesome, 25 per cent. as suspicious and probably contaminated, 36 per cent. as seriously polluted, and 9 per cent. as non-potable through high salinity. From year to year these percentages will vary somewhat, thus of waters ranking first class, the lowest percentage in any one season was 22 and the highest 40. In 24 years the proportion of good waters exceeded 30 per cent. in eight seasons only. We do not claim that these results represent the condition of the farm supply in general throughout the Dominion. It might be urged that only those who have reason to suspect their supply, either through illness in the family or strong objectionable features in the water itself, are forwarding samples for analysis. It might be pointed out, however, on the other hand, that there is a very large class which appears to be totally indifferent as to the quality of the water they use and who do not think it worth while to have their well water examined. Of these waters, we may well suppose there is a large proportion positively unsafe for use. As we must be all aware, the farmer has been accustomed to judge of the suitability of a water for drinking purposes by its temperature, appearance and odor or absence of odor, and we know how very fallacious such signs or qualities may be at times. In the absence of features that make the water objectionable to the senses, the source by the larger number of consumers is considered satisfactory, and there is no effort made towards learning its true condition. Many such waters—clear, brilliant and odorless—drawn from farm wells and hitherto quite unsuspected of impurity, have been shown by analysis to be most seriously contaminated.

If the proportion of wholesome, safe-for-drinking waters used on the Canadian farm does not exceed one-third of the whole we have certainly a sufficiently serious condition to warrant a strong effort being made towards improvement. In this matter I believe we have been very conservative, under rather than over estimating the proportion of dangerous waters in use.

And now we must briefly enquire as to the nature of these supplies and the cause of their contamination. On the larger number of farm homesteads we find these

supplies are shallow wells—wells dug to a depth of from 5 to 30 feet. These are located in the barnyard, where there is unavoidably more or less accumulation of manure, or under the barn or stable, or in more or less close proximity to one or other of the farm buildings containing stock, or at no great distance from the privy—frequently a mere hole in the ground—or lastly, close to the back door, out of which the household slops are thrown and near which only too frequently vegetable and animal refuse are allowed to accumulate and decompose. Thus, health is jeopardized for convenience. For a few years after the homestead is established the water of such wells so located may remain good; but sooner or later the soil surrounding the well becomes saturated with organic filth and, unable longer to perform its useful work of filtration and purification, allows the water percolating through it to carry its load of manurial matter to the well. Inevitably these wells become polluted; we have yet to find one on a farm ten years in operation furnishing a pure, first-class drinking water. Some farmers take pains to protect the mouth of the well against surface wash, and the entrance of rats, mice and frogs, which so frequently find a watery grave in the farm well, and, again, others line the well to a depth of 5 or 10 feet with puddled clay or concrete. Both plans are to be recommended as safeguards, but they will not remove the objection to shallow wells placed in proximity to sources of contamination. These precautions are altogether insufficient in the larger number of instances to prevent the infiltration of organic filth, as we have often been able to prove. Many suppose, because these barnyard, back-door wells never go dry, that they have a spring, but such is very seldom the case; undoubtedly the great majority of such wells merely receive soakage and are supplied from the rain and snow falling on the immediate surroundings. Such, briefly, is the condition of affairs; can it be remedied?

There is probably no better watered country in the world and we can unhesitatingly affirm that our natural waters, of lakes, streams and springs are of the purest. If time permitted I could present ample proof of this statement. These sources might be used to a greater extent

than at present. Our deep seated waters also for the most part are organically pure and this is the source that the larger number of our farmers must look to for their supply of good water. The driven or drilled well, so located as to be beyond the possibility of local contamination, is the solution of the problem for many; it is the well that experience has shown to yield the safest water. A careful survey of the farm should be made with the special object of locating the well, having in mind the practicability of piping the water to the house and buildings. But this is a phase of the subject which I cannot here enter upon. My principal object in writing this paper was to call your attention to the quality, the character, of the water as found to-day on our farms, in order that we might, by a more active campaign, bring about a better condition of affairs. We want to urge the abandonment of the shallow well located in the barnyard or in the neighborhood of the farm buildings. We want our people to know the danger to health that lurks

in the water containing putrescible, excrementitious matter. They should be told of the ease with which such wells become infected with the germs of disease, how frequently the waters of such wells are the means not only of causing diarrhoea and other forms of intestinal derangement, but of disseminating that fearful scourge of country and city alike, typhoid fever, the disease that stands out as the most serious and fatal of water-borne diseases in this country. May I not venture to hope that in assisting towards the establishment of a good water supply on the Canadian farm homestead, the Canadian Public Health Association may find a fruitful field for work. By a vigorous propaganda, by the collection and tabulation of statistics, by the personal influence of its members and in many other ways, the Canadian Public Health Association can, and I have no doubt will, take a very active and important part in our crusade against the impure water supply on the farm homestead.

## THE SANITARY INSPECTION OF VILLAGES

BY H. O. BOYD, M.H.O., BOBCAYGEON.

Owing to an outbreak of typhoid fever, due to one case imported from the outside in the fall of 1910, I considered it advisable to make a personal inspection of the village in May, 1911, and endeavor to keep the village in a sanitary condition.

This work was supposed to be done every spring by the Sanitary Inspectors of the Local Board of Health.

Before proceeding to work a Public Notice was inserted for three consecutive weeks in the local paper notifying the householders that a house to house inspection would take place on May 15.

This notice had a desirable effect on a large number of householders, as their premises showed signs of recent cleaning on the 15th.

On May 15th, with the aid of a constable, every street was carefully gone over and a record kept for future guidance showing the following facts:—

Occupant's Name, Water Supply, Disposal of Sewage, Condition of Yards and Stables, etc.

The Summary worked out as follows in a village of 1,000 inhabitants:

Premises.	Wells.	Pit Closets.	Box Closets.	Bath Rooms & W.C.
262	134	123	126	19
Stables	Horses.	Cows.	Pigs.	Calves.
120	76	91	69	14

Out of 262 premises no less than 64 were found in an unsanitary condition. The occupants of these premises were given 24 hours to clean up. A man was employed to do the work where the occupants could not or would not do so.

As a result of this cleaning up and the knowledge gained by each householder the year 1911 was the healthiest year in the history of the village, the absence of Infantile Diarrhoea being especially noticeable.

It requires three men to do the work, a medical officer to give instructions, a constable to see that the work is promptly done and a man willing to do any kind of cleaning at a fair and reasonable price.

The use of holes sunk in the ground for closets and the pouring of crude sewage into our lakes and rivers should be made a criminal offence.

## THE BROADER ASPECT OF MEDICINE

We have only to note the discussions on medical phases of the National Insurance Bill in the British House of Commons and the heated criticisms regarding it in certain medical societies and by part of the medical press, the launching of the "Ontario League of Medical Freedom" as a protest against larger and better organized health districts in that province or, the influences striving to block the establishment in the United States of a National Bureau of Health, to realize that there are many who hold opinions contrary to (forces still active against) what students trained in the pure sciences at school and college and in the technical medicine have to-day come to assume are settled problems outside the pale of logical dispute. To most of us the rule "the experimental method"—of science applied—in Medicine has come to be the only working one; yet we do not have to go beneath the surface to discover, even in the ranks of the medical profession itself, those who at present look upon Medicine as an art to be practised with all the energy and business ability possible, to be viewed as empirical, something personally possessed, rather than as scientific and to be used primarily in the altruistic spirit of those whose aim is the discovery of truth, the saving of life and the welfare of the State.

On the other hand this empirical attitude is making the social aspect of Medicine all the more clear. Even in the eras when empiricism, misinterpretation or mis-application, was most widespread, preceding scientific Medicine—when many theories more absurd than at present prevailed—the history of Medicine (a word derivative from the Greek meaning learning and in application subsequently through the Latin, to heal), whether in France, England or Germany, displays the physician possessed of high attainments secured only after years of arduous study; and, thus, wherever, as now with ourselves, this view has in large measure prevailed, the position of physician has carried, and should carry, with it a definite ethical and scientific attitude towards all problems in any

way tending towards the uplifting and betterment of humanity and the welfare of the people as a whole. Nor is it out of place to recall that from earliest Babylonian, Egyptian, Israelitish and Greek times, almost all transmitted writings have presented life as an all-absorbing problem in which the physical and spiritual or perhaps the sensuous and super-sensuous have intermingled; the healer of physical and moral ills usually combined in one person — an ante-type of that modern excrescence, Christian science—the priest as healer and the healer as a priest.

Viewed in this aspect and in the light of the higher interest of the medical profession to-day, must it not be apparent that the careful, the continued maintenance of a close relationship between the purely "experimental"—in the role of purposeful interpreter, of educator—and the ethical, metaphysical, and social aspect of Medicine is essential? It seems so.

The utility of such an alliance is best illustrated by the beginnings of Preventive Medicine in the early half of last century. Here we find that it is to one trained originally as a lawyer that we owe the first formative work—to Edwin Chadwick, who studied the sweating system amongst the tailors of Whitechapel, made an actuarial report of the average probability of life in relation to annuities, and by 1837 had so forwarded the social phase of the health problem that the Registration of Births, Marriages and Deaths Act was passed, himself as the first Registrar-General. Yet, while the Registration of Births, Marriages and Deaths Act then lead to the Public Health Act of 1848, of limited application, and later to those of 1858 and 1875, it is evident that the social and ethical side of Medicine could not have advanced Prophylaxis to its logical conclusion until the experimental, the scientific side had definitely discovered what it was that must be prevented.—Only when the causes of the acute infections came to be understood, based upon Pasteur's dictum, that every living thing comes from a germ, could the starting point be established from which the two move-

ments, the experimental and social in Medicine, advanced together.

To the student of medical science to-day, knowing only laboratory methods and studying microbes and their by-products, the empirical systems of even half a century ago will be incomprehensible—such a term as “laudable pus” would by him be relegated to the days of the Humorists. On the other hand it is not unnatural (and perhaps it is inevitable) that occupied with serum-therapy and opsonins in the intricacies of laboratory research, both student and professor should now have little time and less opportunity to view, as from Pisgah, the “promised land” of Medicine: the land that includes in its care the part played by heredity and the prenatal environment of the child; that assumes control at birth both of mother and child, the daily surroundings of both — the feeding, clothing, the breathing places; presumes to dictate the age at which the child is physically and mentally ready for school, the hours and methods of study, the sanitation of the school-room—its air capacity, its lighting and ventilation; attempts to determine the age at which the child shall begin to assist the State by leaving school and entering upon its life work; and theoretically adjudicates upon the conditions under which men and their families shall live and work in our crowded cities; enunciating opinions regarding the regulation of public water supplies, meat supplies, milk supplies, and, tells the public all that it may learn through careful investigation. In other words the individual, communal, the na-

tional effectiveness, based upon principles and practice of Medicine viewed in its broadest meaning and relationships, is or ought to be the one object which society seeks and which the profession of Medicine appears from its position bound to supply.

The utility of this broader aspect of Medicine admitted,—and differences of opinion, even in modern legislatures, making it manifest that, whether the profession of Medicine be a unit or not, there are other elements in the body politic which have not the knowledge of or belief in the infallibility of our “experimental method,” our scientific procedure, to accept its propositions without question as being in the highest interest of the individual and the State—does it not behoove all disciples of Aesculapius and Hygieia to examine themselves and determine whether or not they are the possessors and upholders of principles and practice so universally true that those outside “the shrine” should hear only one full toned melody. Certain it is that fundamentally to none other save the medical profession—since, as we assume, public health governing the individual is the corner stone of our national edifice—may the public, the State, look for that practical assistance (which comes only from experimental knowledge and harmonious teaching of facts) necessary to the full solution of domestic, social and economic problems. And certain it is that to no other profession thus viewed does the scripture “*Cui multum datum est, multum quaerabatur ab eo*” have a sterner and a more comprehensive meaning.

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## INTER ALIA

The Canadian Public Health Association's Federal Bill, which we referred to editorially last month, has now become an Act of Parliament, receiving the assent of Field Marshal, His Royal Highness, the Governor-General.

We congratulate the publishers of “Conservation” on the excellent appearance of their new bulletin. This is a four-page production, published monthly for eight months in the year by the Commission of Conservation, Ottawa, to satisfy the wants

of the press of Canada for authentic information regarding the objects and work of the Commission so that a true conception of conservation may be implanted in the minds and hearts of the people.—The Commission of Conservation being a purely advisory body, is dependent to a large extent for the adoption of its recommendations on the support of the press and public opinion in general.

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The Federal Government expended \$377,485 for Public Health Service in 1910. Of

this sum, the Department of Agriculture expended \$146,781; the Department of Indian Affairs, \$125,121; the Department of the Interior, \$66,969, and the Department of Inland Revenue, \$38,613. It has been suggested in *The Public Health Journal* by the Canadian Public Health Association, that the public health service be placed under one department. The Commissioner of Conservation also points out that such consideration would undoubtedly make for economy and greater efficiency.

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In the matter of meat inspection Canada is much behind the times. The Government, some years ago, very properly made arrangements for the inspection of meats for export. No diseased meat may now be shipped out of Canada, but it can be sold in Canada. Why should Canadians be content to consume impure and dangerous food products?

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The life insurance people have a specific, as well as a general interest, in the conservation of health, especially of policyholders in their companies. Anything that tends to increase the life of mankind is beneficial, not to the insurance companies alone, but to the State and to the men and women who compose the State.

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This is true, and the fact that the launching of the proposed campaign of education is prompted primarily by a motive of self-interest does not detract from the value of such a campaign, nor should it be the less appreciated by the public on that account.

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The ignorance of the average person of health rules is appalling, and the neglect by others who do know something of such matters is inexcusable. Both are responsible for a large degree of the deaths which occur each year, including victims from infancy to old age, and a campaign of educa-

tion which will enlighten those who need to be impressed with the importance of correct living will deserve the co-operation of all the people.

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It has been observed by Dr. Harper, secretary of the board of health of Wisconsin, that educated people are no more careful in the matter of observing precautions for public health than are those who are uneducated. Dr. Ravenal, of the Hygienic laboratory of the same state, declares that university professors are as ready to take up patent medicines and fake cures as are the most ignorant.

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The agitation for the teaching of sanitation and hygiene in the public schools seems rather futile in the face of these facts. But it must be remembered that the average person depends largely for his rules of health upon his own individual experience or that of his parents. Health rules are a matter of tradition with him.

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And it is with these personal and intimate matters that there is the slowest adjustment to the teachings of science. But that much has already been done to effect public sanitation by the work of the schools can not be doubted. The continued teaching of the best known precautions in this respect will at least lead to the development of a thoughtful and alert attitude instead of the phlegmatic indifference which is so frequently observed.

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The regulations requiring the production of medical certificates with the marriage license now in effect in Chicago should be an incentive to public health advocates elsewhere to see that at least a tithe of the care exercised in growing sound animal stock be adopted in breeding human beings; marriage laws which shall require clean bills of physical and mental health before marriage seem essential.

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CURRENT PERIODICAL COMMENT AND  
WORKING NOTES

**Matter Out of Place.**

Amidst the ebb and flow of medical advance, says the *Wisconsin State Journal*, one discovery stands out like the rock of Gibraltar, and that is that cleanliness is the cornerstone of health. In the work of the physician to-day the first demand is cleanliness. Not merely because of its facilities, but because of its cleanliness is the hospital made the place for the treatment of the sick. The United States cleaned up Havana, and yellow fever—a menace for generations—was wiped out. Panama was cleaned up, and the isthmus is to-day healthier than New York. Before the march of cleanliness disease steadily falls back.

Matter out of place is the well known definition of dirt, and it is matter out of place that is at the basis of all earthly disorders. A splinter of bone pressing on the brain will send a man to the insane asylum. The smallest leak from the sewage pipe to the water main may spread typhoid fever through a whole community. The poisons deadliest to man have their rightful places, but taken into the human system they are misplaced and they cause death.

Order and cleanliness are the basis of health, and in their final analysis order and cleanliness are one. Give us clean streets, clean houses, clean food and water, clean clothing, clean bodies and clean thoughts for three generations and disease will disappear from the earth.

**Diseases in Prisons.**

The need of guarding against the spread of disease in prisons and from there to the general public is suggested by a writer in the *American Magazine*. Only twenty-one of our prisons, says the writer, make any special provision for consumptives.

It is not alone the ordinary danger of infection which should disturb the public,

either. These diseased prisoners are allowed, even required, to work over garments that are sent out and sold all over the world reeking with the germs from those by whom they have been made.

Says the article in one of many similar illustrations of the conditions in prisons:

"Anyone who calls at the Maryland penitentiary," runs this affidavit, "and requests to see several negroes I could name, will find them covered over with running sores, and he may well shudder from a fear that perhaps the shoe he is wearing was handled over and over again by these men in different operations. Then again there are many consumptive inmates . . . engaged as operators, etc. . . . I have personally seen the dried sputum scraped off shirts in the packing department before shipment, and I have witnessed men ground to their machines until two days before death, which was officially pronounced by the penitentiary physician as due to tuberculosis. Men suffering from these diseases are not isolated, even in the dining room, and never in the shops. . . ."

Now this prison alone sends out about 4,000,000 shirts a year, which are sold all over the country under hundreds of different labels. How many messages of disease and death do these 4,000,000 shirts carry into unsuspecting homes?

Such conditions as this should call for immediate and stringent reform. Our sanitariums and tuberculosis camps and other costly and elaborate precautions are inadequate and senseless in the face of facts such as these.

**Smallpox and Compulsory Vaccination.**

This year the perennial attempt has been made, and happily again defeated, to secure the repeal of the compulsory vaccination law of this commonwealth, says the *Boston Medical and Surgical Journal* in a recent issue. The value and the necessity

of such a law are so obviously self-evident to all rational persons that it would hardly seem needful that they should be thus reiterated year after year. Unfortunately, in this, which is not yet the best of all possible worlds, the truth must still sometimes be asserted, not merely assumed.

Perhaps one of the best arguments for the value of vaccination is the case of Germany, which has the most stringent and perfectly enforced vaccination laws and the fewest cases of smallpox of any country in the world. Even in Boston there have been only five deaths from smallpox since 1904, and from 1874 to 1900 there were only sixty-one. From 1901 to 1904 there was an epidemic of the disease at this port, with 277 deaths. In the epidemic of 1872-73 there were 3,722 cases of smallpox and 1,040 deaths.

It was after this visitation that the present vaccination law was enacted. In the epidemic of 1792 it is recorded that nearly half the inhabitants of Boston were infected; and in that of 1721 more than half the population of the town had smallpox, and 850 died of the disease. Contemplation of these figures, which are taken from data collated by Dr. George W. Gay, should be enough to convince even the unthinking of the salutary effects of compulsory vaccination.

One of the principal objections to vaccination has been that other diseases are sometimes simultaneously inoculated. That this has rarely occurred is unquestionable. When it has occurred it has been due either to impure water or to carelessness of inoculative technic, both of which are avoidable evils.

For the past eight years the manufacture of vaccine virus in Massachusetts has been under State control at the State laboratory. During this time there have been prepared and distributed 339,710 tubes of vaccine virus, and there has been not a single complaint that one of these tubes was impure or that ill-effects resulted from its use. Such a fact is eloquent.

The people of Massachusetts should realize the good fortune of their situation in this respect, and from comparison with the past, as well as with other communities, should learn to appreciate the importance of vaccination laws and the necessity of their maintenance.

### Every Man's Business.

In the last issue of *The Christian Herald* it is pointed out that "what is every man's business is no man's business" is a fallacy, for to succeed as a community every man must make the general business of the community his own special business.

This is the one thing needed to secure purer politics, if not more efficient public officials. In no one thing—and we regard it as the most promising of signs—has effort been more readily contributed and individual interest been more generally awakened than in the enforcement and observance of sanitary laws.

A French writer of thirty years ago—with more truth than satire—described the people of the United States as "a nation of spitters." This disgusting disease-spreading habit has not been wholly suppressed, but even the unobservant must have noticed a change for the better that has taken place in the last few years.

A study of the municipal ordinances of all our cities shows that the public has come to realize that "prevention is better than cure," and so laws have been passed, not only against the practice just referred to, but also for the cleaning and disinfecting of public conveyances and the better sanitation of dwellings.

But no matter how exacting or beneficial the law, it must remain a dead letter, unless approved by the majority. Surely, if only from self-interest, the majority should make every effort to preserve its own life.

### Hot Foods.

The attention of the medical profession has lately been attracted to this question as to whether we habitually eat too hot foods, by a correspondent of the *British Medical Journal*, who has made some very interesting observations on the subject. This investigator has found that, whilst soup, tea, and coffee are frequently taken at temperatures from 124 deg. F. to 148 deg. F., solid foods are not uncommonly eaten at no less temperature than 167 deg. F. As he quite rightly points out, the skin would be "scalded" by any liquid as hot as this, yet the mouth does not give the impression of so great heat, as a rule, and

thus we are accustomed to swallow foods which are much hotter than is generally imagined. Consequently, this observer infers that it is "in the highest degree probable that the frequently-repeated daily internal irritation by scalding-hot foods and liquids must often result in serious disease." And in regard to the consequences to health likely to result, it is suggested that the increased use of hot drinks and foods may be partly responsible for the increase in the prevalence of cancer; also for the tendency to early decay of the teeth so noticeable nowadays, in which connection we are reminded that "even cattle lose their teeth when given hot mashes."

#### A Triumph of Sanitation.

Too much of what appears in print on the public health subject bears internal evidence of having been written by those without first-hand knowledge of the subject discussed, says the *Journal of the American Medical Association*. The result is a vast accumulation of platitudinous and often inaccurate advice, not only as to personal hygiene, but as to the solution of nationwide health problems. On the other hand the real sanitarians, those who actually go into the field and accomplish something, too frequently content themselves with brief and technical accounts of their work. The consequence is that much of the enthusiasm of the public is misdirected and the limited funds usually available for health work are expended on matters of comparatively minor importance.

These remarks do not apply to the campaign against typhoid conducted last summer in Yakima county, Washington, or to the manner in which the results are recorded in the recent bulletin of the United States Public Health Service. In this bulletin Dr. L. L. Lumsden gives a clear and succinct discussion of the causation and prevention of typhoid and illustrates each point by reference to conditions observed in the state of Washington. A densely populated semi-rural community, provided only in small part with public water supplies and sewerage system; a very large number of insanitary privies, frequently in close proximity to shallow wells; a number of stables and manure piles, breeding innumerable flies; an extensive system of irrigation ditches, accelerating the prompt

and wide distribution of pollution; typhoid prevailing throughout the year, but with a marked increase each summer, the annual typhoid death rate being about 150 per hundred thousand.

The methods employed were the creation of a popular sentiment for improved sanitation by means of public addresses; an exhibit at the health department, etc.; the enforcement, in a practical and common-sense way, of sewage disposal; the protecting of the water supplies and milk supplies; the proper disinfection of human excreta; the destruction of the breeding places of flies, etc. Those directing the work did not stop with sententiously advising the citizens to expend immediately large sums of money in filtration and sewage purification plants and, in the meanwhile, to "boil the water" and leave the rest to Providence; but simple, practical measures were at once employed.

The result was, as already indicated, a practical elimination of the disease. Were similarly successful campaigns carried out throughout the country, the number of cases of typhoid in the United States would soon be reduced by 400,000, and the deaths by over 30,000 per year. Such a statement seems incredible, but anyone carefully studying the conditions in Washington will be convinced that they were not in any respect more favorable for the suppression of the disease than those existing elsewhere; in fact, conditions are more favorable in most localities.

#### Diet and Intellect.

Discussing the interesting question of the possible effects of diet on intellect, the *British Medical Journal* observes that "on the whole, it would seem . . . that great brain-workers have for the most part been hearty eaters. But the Muses, scientific as well as literary, have been, and will doubtless continue to be, successfully cultivated on a little oatmeal; and there is no diet that will make a great man, though inadequate or improper nourishment may prevent his reaching the full strength of his intellectual power."

#### Open the Windows.

Commenting on the difficulty of ventilating schoolrooms properly, the *New*

*York Medical Journal* quotes Leonard Hill, an English authority, as admitting that the problem of ventilation has not been mastered in theory nor in practice, and that "with the most elaborate systems there not infrequently appears to be a decided lack of fresh air." Concluding, *The Journal* says:

Many authorities now hold that the open window is the best means of ventilation. Perhaps it is not possible to have the windows always so placed in schoolrooms as to afford a thorough draft, nor may it be advisable to keep the windows of a schoolroom open sufficiently long to provide all the ventilation necessary. On the other hand, on the open window the main dependence for the ventilation of schoolrooms must be placed, and at least during the recreation time windows should be thrown wide open in order that the air may be renewed as effectually as possible.

This advice should be followed in all public schools and in other buildings that are presumed to be ventilated thoroughly by means of air ducts and forced drafts. The "canned air" feeling in many such buildings is not pleasant. Open the windows and "blow out" the room thoroughly several times a day until the inventors perfect their devices for other ventilation.

#### Elephantiasis in Fiji.

Mr. P. H. Bahr's report on "Filariasis and Elephantiasis in Fiji," has just been published as the first supplement to the *Journal of the London School of Tropical Medicine*. The most important of his conclusions are that surgical and medical treatment of filarial disease is unsatisfactory, and that mosquito destruction, carried out on the same lines as for malaria and yellow fever, is the only means likely to prove of service in eradicating the disease. Mr. Bahr points out that the increasing prosperity of the Fiji Islands is attracting more white settlers every year, that in certain districts a large proportion of whites are infected with filaria and are thereby exposed to a great deal of inconvenience, if not of danger to life; and, therefore, that in the interests of the islands the only effective means of prevention at present known, the destruction of mosquitoes, should be carried out efficiently.

Among his other conclusions are the following: That the principal pathological expression of filarial infection is the same in Fiji as elsewhere, elephantiasis; that the precise mechanism of the production of elephantiasis has yet to be determined; that a large proportion, 27.1 per cent., of Fijians harbor micro-filariæ in their blood, and that there are reasons for believing that, at one time or another, nearly every Fijian is the subject of filariasis; that as yet the evidence is insufficient to state definitely whether or not the Fijian filaria is a new species; and that certain parasiticide drugs in medicinal doses have no manifest influence on the circulating micro-filariæ.

#### The Ozone Myth.

The popular theory that a large amount of ozone in the air is beneficial, is disputed by the editor of *The Journal of the American Medical Association*. He declares that if enough ozone were present to kill disease germs, it would also destroy the tissues in which they occur. He also points out that the investigations of two London physicians have proved that a concentration of one part of ozone to a million parts of air is sufficient to cause irritation of the respiratory tract. He deals with the question under the head of "Ozone Myths," and says:

"Faith in the subtle and far-reaching effects and the health-giving virtues which have at one time or another been attributed to ozone has somehow been instilled into the popular mind. Seaside and mountain resorts alike have benefited by the reputation of ozone in the air in the neighborhoods involved. The excusable longing of an ever-ailing population for a stimulating atmosphere, and for an ideal antiseptic, has led many to look hopefully toward that substance which appears to represent the acme of the valuable properties of oxygen. The honest manufacturer and the medicine faker have both been alert to avail themselves of the opportunity for public service, so that 'ozonizers' and 'ozonized' products are displayed in abundance.

"The ozone question presents its facts as well as its fiction. Ozone undoubtedly has antiseptic power; but for such effects a concentration of at least thirteen parts

per million in the atmosphere appears to be necessary, and even here the action is not penetrating. Such quantities are by no means innocuous to man. It was at one time believed that the disappearance of epidemics in certain localities was associated with the germicidal ozone content of the atmosphere. This appears most unreasonable to-day, because of the extremely small quantities of ozone which are actually found in the air at any time.

"It had been hoped that inhalation of ozone-laden air might facilitate oxidation in the tissues, and especially advantageous results were looked for in such conditions as pulmonary tuberculosis. As a matter of fact, even small proportions of ozone were soon found to be irritant to the respiratory passages — an effect at once ascribed to contaminating oxides of nitrogen which have always offered an obstacle to the satisfactory study of the subject.

"Lately it has become possible to prepare undoubtedly pure ozone, and thus the way has been opened to a renewed investigation of its physiologic properties by Prof. Leonard Hill and Dr. Martin Flack of London. They have noted that 'a concentration as little as one million is irritating to the respiratory tract. Exposure for two hours to a concentration of fifteen to twenty per million is not without risk to life. The irritative effect and the discomfort produced thereby — cough, headache — give ample warning, and there is no risk from inhaling ozone so long as an outlet for the instinctive escape from its influence is open.'

"The London investigators have pointed out that from a hygienic point of view ozone may be useful as a deodorizer. It does not destroy the odoriferous substances, such as the smell of tobacco, but masks it. To the nervous system, however, it makes little difference whether a bad odor is masked or destroyed, so long as its disagreeable quality is no longer recognized. In any event, it is important that systems of ventilation to which ozone may be applied should be dealt with by those experienced so that harmful concentrations will not be supplied.

"The concentration of ozone necessary to kill bacilli would also kill tissues in which they occur. Ozonized ointments have not been observed to exhibit any superior ef-

ficiency in cleaning up infected parts such as are found in superficial ulcers. To give the widely heralded ozone the advantage of the most favorable reports, we can at best merely conclude with Hill and Flack that 'the beneficial effect of ozone obtained by the ozone ventilating systems is to be explained by its effect on the nervous system.'

"There is no harm in breathing weak concentrations of ozone, such as can be scarcely perceived by the keen sense of smell. Ozone in somewhat higher concentration, (one million,) may have some value as a therapeutic agent if inhaled for brief periods; by irritating the respiratory tract it may act as a blister or fomentation and bring more blood and tissue lymph to the part. The blood and tissue lymph contain the immunizing and curative properties.

"But this is, after all, a rather far-fetched way of applying a 'blister' to the respiratory tract. In respect to real therapeutic usefulness the burden of proof may well be shifted on the ozone, so long as there is no paucity of other curative agencies."

### School Ventilation.

To me the schoolhouse is like the factory where the incoming children are the raw material and the output consists of more or less well equipped citizens. Anything, therefore, that will prevent the turning out of imperfect output should be considered very seriously, and if possible, adopted, says a writer in *Engineering Review*.

The schoolhouse output is of the most vital interest to the owners of the factory, the public, as the future welfare of that public itself hinges upon the value and completeness of the training and physical equipment of its children.

The successful manufacturer of to-day does not hesitate to replace the machinery of his plant as often as may be necessary to keep his factory abreast of the state of the art, even though that machinery be in good condition and almost new, as he realizes that with antiquated machinery and obsolete methods he cannot hope to compete successfully in the world's markets.

How much more should the owners of the school factory discard apparatus which the state of the art shows to be inadequate or obsolete?

It is a self-evident fact that while the children and teachers in our schools are working under sanitary and debilitating surroundings they cannot show the rate of progress that could be made under more perfect and hence more favorable conditions. The loss of time caused by lowered vitality costs the taxpayers very large sums, as children thereby are compelled to repeat the work of the different grades, requiring added teachers, more school rooms, books, etc.

The loss to the public is also increased by the expense involved in feeding and clothing these "repeaters" for the years thus wasted when they should be "earners" instead of "dependents." Further, the public loses by the lowered efficiency of its future citizens involved in the loss through training and impaired or lessened vitality caused by such insanitary conditions of the school rooms.

It is obvious that for economic reasons, to say nothing of higher reasons, the best that can be designed should be provided for our schools, for old schools as well as new.

The fact that little has been done in this matter of bettering old schools entirely justifies the criticisms that from time to time have been made as to bad conditions in public schools.

On the other hand many of the statements made in those criticisms have been incorrect, as the poorer examples have been selected as proving the impracticability of using any form of ventilation in schools other than by opening windows.

Open window ventilation has been shown to be unsafe, unsanitary and unreliable, whereas properly designed and operated mechanical ventilation is safe, sanitary and reliable and has been proved such in many cases.

I can take you to several schools, private or public, as you prefer, where modern ventilation is working successfully and giving satisfaction.

I do not, however, claim that no improvements are desirable in these schools. I am a firm believer in air washing and humidity control, which none of these schools have.

I further firmly believe that we should ozonize the air in connection with ventilation, and it seems to me that ozonization would enable the use of about one-half the air needed for adequate ventilation with air not so treated. Unfortunately, so far I

have heard of no means for controlling the amount of ozone to suit the momentarily varying needs, and also the amount of such needs, has as yet been definitely determined. There is also the danger with ozonizers that the electric discharges used to generate ozone may, because of overheated terminals, generate nitric acid or nitrous oxide, either of which is injurious to the persons breathing it, and too much ozone is also injurious.

These matters are so vitally important to public welfare that I trust that in the near future tests will be made of such scope and variety that the questions raised here to-day may be settled and the art and science of ventilation may become fixed.

Much thought has been given to the character of such tests and the problems presented are not easy of solution.

The deleterious effects of impure air and poor ventilation are slow in appearing, but are none the less disastrous.

Local conditions of epidemic, such as colds, etc., show more rapidly than do the effects of bad air, and even the excitement created in the children and teachers in connection with experiments made upon them may nullify the data taken in such tests.

The matter is serious enough to merit, in my judgment, a very thorough series of tests being made by a corps of trained nurses and physicians working in harmony with experienced heating engineers, and the value of the results to be so obtained would warrant the expenditure of whatever sum may be necessary either by city, state or nation.

#### Reference Guide to Other Journals.

*American Baby* (Vol. III, No. 4)—"The Heredity of Richard Roe: A Discussion of the Principles of Eugenics," by David Starr Jordan; "The Future of the American Indian Child," by Charles Montezuma; "Social Status of the Illegitimate Child," by S. W. Dickinson; "The Illegitimate Child," by H. H. Hart.

*American Journal of Clinical Medicine* (Vol. XIX, No. 3)—"The Medical Situation in Europe," by Maynard A. Austin.

*American School Board Journal* (Vol. XLIV, No. 3)—"Criteria for Determination of Relative Efficiency of City School Systems," by Wm. Estabrook Chancellor; "Are School Gardens a Fad or a Real Benefit in School Work?" by Frederick G. Kraege; "Waste and Efficiency in School Studies," by W. H. Elson.

*Canadian Medical Association Journal* (Vol. II, No. 3)—"Low Percentages in Infant Feeding," by Robert Dawson Rudolph; "Pulmonary Tuberculosis," by Olliver Bruce.

*Canadian Municipal Journal* (Vol. VIII, No. 3)—“The White Slave Traffic,” by Colonel Sherwood.

*The Canadian Practitioner and Review* (Vol. XXXVII, No. 3)—“The Practical Management of Pulmonary Tuberculosis,” by F. S. Minns.

*Construction* (Vol. V, No. 4)—“The McGill Medical Building,” by Philip J. Turner; “The Effect of Comparison upon Design,” by J. Wilton Dyer.

*Heating and Ventilating Magazine* (Vol. IX, No. 3)—“Ventilating of a Steam Laundry,” by A. M. Fieldman; “The Art of Vacuum Cleaning,” by Austin H. Hart.

*Indian Medical Gazette* (Vol. XLVII, No. 2)—“Some Notes on the Proposed Bill to Consolidate and Amend the Law Relating to Lunacy,” by M. J. Shaw; “Hypnotism and Psychotherapy,” by V. P. Green Armytage; “Intestinal Parasites in the Wardha District,” by M. Foster Reaney; “The Recognition of American Degrees or Diplomas,” Editorial; “Medical Acts for India,” Editorial. *Journal de Medecine et de Chirurgie* (Vile annee, No. 3)—“Des Indications Therapeutiques dans les Complications de l'Avortement,” par le Prof. Couvelaire.

*Journal-Lancet* (Vol. XXXII, No. 6)—“The New Public Health—Third Paper,” by W. H. Hill.

*Journal of the Royal Army Medical Corps* (Vol. XVIII, No. 3)—“Apyrexial Malaria Carriers,” by G. E. F. Stammers; “Practical Hints on Marching and Health on Active Service,” by G. Fahey.

*Journal of the Outdoor Life* (Vol. IX, No. 3)—“The Nature of Sera, Vaccines and Tuberculins,” by N. T. Hastings; “A Chapter on Helplessness,” by Edward Cummings.

*Journal of the Royal Sanitary Institute* (Vol. XXIII, No. 2)—“Meat Branding and Uniformity of Inspection,” by W. G. Barnes; “Modern Abattoir and Its Methods,” by J. Sherwood New; “The Smoke Nuisance and Its Abatement,” by John Macaulay; “Dairies and Milk Supply from a Sanitary Inspector's Point of View,” by J. T. Cowderoy.

*Journal of State Medicine* (Vol. XX, No. 3)—“Local Specific Treatment of Infections,” by Simon Flexner; “La Theorie Physique de l'Immunité et ses Bases Experimentales,” par O. Genoué.

*Medical Council* (Vol. XVII, No. 3)—“Deep Breathing and Its Relation to Digestion, Assimilation, Elimination and Health,” by Alex. Chittick; “The Philosophy of Healing with Methods for Promoting the Same,” by J. C. Bateson; “The Venereal Menace,” by L. P. Wineburg.

*The Medical Officer* (Vol. VII, No. 9)—“The Influence of Schools on the Incidence of Scarlet Fever,” by John D'Ewart; (Vol. VII, No. 10)—“Impure Milk: State Inspection and Control of the Milk Supply,” by Arthur R. Littlejohn; (Vol. VII, No. 11)—“Time and the Second Generation: Conclusion,” by Robert J. Ewart; (Vol. VII, No. 12)—“Ophthalmia Neonatorum: Its Prevalence and Its Importance as a Cause of Blindness in New York City,” by Herbert W. Wooton.

*Medical Review of Reviews* (Vol. XVIII, No. 3)—“Social Responsibilities” Editorial; “An Essay on Hasheesh,” by Victor Robinson; “Servetus, the Medical Martyr,” by Victor Robinson.

*O. A. C. Review* (Vol. XXIV, No. 6)—“Drainage Survey Work,” by J. Miller.

*Oral Health* (Vol. II, No. 3)—“Prophylaxis in Relation to Diseases of the Teeth and Their Adjacent Parts,” by F. C. Husband.

*Public Health Reports* (Vol. XXVII, No. 8)—“Pellagra: A Report of an Epidemiological Study,” by R. M. Grimm; (Vol. XXVII, No. 9)—“The Transmission of Typhus Fever with a Special Reference to the Transmission by *Pediculus Capitis*,” by Joseph Goldberger; (Vol. XXVII, No. 11)—“The Bacteriological Diagnosis of Cholera,” prepared in French by the International Office of Public Hygiene and translated by H. G. Geddings; (Vol. XXVII, No. 12)—“The Necessity for Safe Water Supplies in the Control of Typhoid Fever,” by Allan J. McLaughlin.

*Realty Review* (Vol. I, No. 1)—“The Housing Problem,” by James Simpson.

*Sanitary Record* (No. 1165, Vol. XLIX)—“Present European Practice in Sewage Purification,” by R. L. Sackett.

## REVIEWS AND ACKNOWLEDGEMENTS

[Any book reviewed in this department may be obtained direct from the publishers, or from leading booksellers, or through The Public Health Journal]

### “Blair's Pocket Therapeutics.”

The physician very frequently needs, for instant reference, a book which gives the best methods of treatment in any given case. Many books have been offered for this purpose, but they consisted only of collections of miscellaneous prescriptions and formulas, totally unrelated to each other, with no rules nor reasons to guide in their use, and almost useless to the physician with any independence of thought or scientific bent of mind. This book gives a condensed intelligent discussion of the best methods of treatment, based on scientific

principles, with a well-tryed, reliable formula occasionally to illustrate the application of the principles. The author gives many modes of treatment far in advance of the present text-books. An ingenious method of indicating relative dosage is to print the name of the drug in capital letters for large doses, in ordinary type for medium doses, and in italics for small doses. An exhaustive “Table of Large, Medium and Small Doses” is given in the book, and the diseases treated are divided into related groups, each group occupying a chapter, according to the following classification:—

Diseases Incidental to Birth; Essential Diseases of Childhood; Essential Diseases of Environment; Diseases of Occupation; Infectious Diseases; Diseases of the Pericardium; Diseases of the Heart; Diseases of the Blood Vessels; Diseases of the Bronchi; Diseases of the Lungs; Diseases of the Pleura; Diseases of the Mouth, Salivary Glands and Esophagus; Diseases of the Stomach; Diseases of the Pancreas; Diseases of the Intestines; Diseases of the Rectum; Diseases of the Liver and Gall Bladder; Diseases of the Spleen; Diseases of the Peritoneum; Diseases of the Uropoietic System; Diseases of the Lymphatic Vessels; Diseases of the Thyroid Gland; Nutritive Disorders; Diseases of the Blood; Mental Diseases; Diseases of the Brain and Meninges; Diseases of the Spinal Cord; Diseases of the Peripheral Nerves; Diseases of the Muscles; Animal Parasites; Alcoholism and Drug Addictions; Diseases of the Hair and Nails; The Principal Diseases of the Eye; Diseases of the Ear; Diseases of the Nose; Diseases of the Tonsils, Pharynx and Larynx; Obsterical Therapeutics; Non-Surgical Gynecology; Surgical Therapeutics; Essential Diseases of Old Age; Treatment of Poisoning (arranged Alphabetically as to the Different Poisons). The Appendix gives very many necessary tables for quick reference, followed by an exhaustive Table of Doses, closing with a General Index. In order to get all this within the compass of a book for the pocket, a very thin, tough Bible paper has been used, so that it is really a much larger book than it looks, and will be a useful pocket companion to the physician in his daily work.—*Blair's Pocket Therapeutics: A Practitioner's Handbook of Medical Treatment.* By Thomas S. Blair, M.D., Neurologist to Harrisburg, Pa., Hospital; Author of "A System of Public Hygiene," "Blair's Practitioner's Handbook of Materia Medica," etc.; 373 pages, special Bible paper; bound in limp leather. Published by The Medical Council Co., Forty-second and Chestnut streets, Philadelphia, Pa. \$2.00.

#### "Cave, Mound and Lake Dwellers."

Florence Holbrook has written an excellent little book for children under the above title. It is well illustrated and is intended to give children some knowledge of the lives of primitive men — of their

homes, their struggles with circumstances and their slow growth toward better things. It will give many grown-ups knowledge of these things also. Miss Holbrook points out that these primitive people were our ancestors who succeeded in overcoming obstacles and in bending nature to their will. Their virtues, courage, endurance, patience, application and hope, while constantly struggling against adverse conditions, must, she believes, awaken our appreciation and pride together with a desire to be brave and strong ourselves.—*Cave, Mound and Lake Dwellers and Other Primitive People,* by Florence Holbrook. Cloth, 138 pages. Boston, New York and Chicago: D. C. Heath and Co. 40c.

#### "Digest of the Laws and Regulations in Various States Relating to the Reporting of Cases of Sickness."

This is one of the official productions of the United States Government, prepared under the direction of the Surgeon General by Assistant Surgeon General, John W. Trask, and covers the subject in a very excellent manner, commencing with an introduction by General Trask, followed in succession by a consideration of the laws of the various states and territories and containing some useful tables and an appendix consisting of a list of State and Territorial laws, which require the reporting of cases of sickness, and a list of some court decisions having a bearing on the notification of diseases.

The author points out that reports of sickness are a necessity in public health work and the foundation upon which the success of that work depends. Accepting, he says, the functions of the health officer as being the prevention of disease, a knowledge of its prevalence within his jurisdiction is essential to this work. General Trask also points out the usefulness of such knowledge to the rest of the profession saying that, aside from a consideration of the subject on a professionally ethical basis, most physicians, because of their position as citizens, would without doubt desire to conform to the law once it had occurred to them that failure to do so placed them outside the class of law-abiding citizens. He also believes in the advantages of making notifiable all preventable diseases. These, of course, would in-

clude infectious diseases, certain parasytic diseases, diseases of occupation and certain diseases of damaged or improper food.—*A Digest of the Laws and Regulations in Various States Relating to the Reporting of Cases of Sickness.* By John W. Trask, Assistant Surgeon General, U.S.A. Prepared by Direction of the Surgeon General. Washington, D.C., Government Printing Office.

#### “Girls and Education.”

The author of “Girls and Education” believes that girls seldom get what a boy would call, in his own case, a fair chance, that in most professions she is still eyed with disfavor and that only through marriage or inheritance in the majority of cases does she win material wealth and the opportunity for culture and intellectual pleasure that such wealth affords. He points out, however, that on this continent the unmarried girl with only her efforts to support her, may lift her life above its drudgery and may become in more or less degree a cultivated woman; assuming that such as fair health, the requisites for the most desirable improvement in her position are commonsense and courage. No girl, the author says, can learn too early that there is a vast difference between feeling too big for a place and being too big for it and that feeling too big for one’s surroundings seldom, if ever, results in culture, breeding; rather, discontent, vanity, idleness and, not infrequently, vice. After taking up the question of reading as a means of self-culture it is pointed out that reading is only one means; the culture that comes from an intimacy with nature must not be forgotten, and over all an ideal is essential: “She may be a teacher of stubborn and stupid little children; she may write dull business letters at the dictation of vulgar men; she may sell hair-pins all day behind a counter; she may make eyelets in a shoe factory; but when the minutes come that are her own she steps instantly (as a result of that culture that comes from commonsense and courage and from her ideal) instantly into a life from which no drudgery can divorce her—a life, the breath of which inspires her daily work, however mean, with a kind of glory. The work is her discipline, her part in the ceaseless renewal of that great and multifarious

life which we call the world; and she can do it, for she has tasted the joy of the ‘unconquerable soul.’” — And so the book goes on, excellently written and inspiring, covering the subject in four divisions: The Girl Who Would Cultivate Herself, To School Girls at Graduation, To College Girls, College Teachers and College Taught.

We cannot refrain from quoting further from final page of “Girls and Education:” “Thus the ideal is not merely the most beautiful thing in the world; it is the source of all high efficiency. In every change, in every joy or sorrow that the coming years may bring . . . nothing is so practical as a noble ideal, steadily and bravely pursued, and that now, as of old, it is the wise men who see and follow the guiding star.”—*Girls and Education.* By LeBaron Briggs. Boston, 4 Park St., and New York: Houghton Mifflin Co. (The Riverside Press, Cambridge). Price, \$1.00 net.

#### “Gulick Hygiene Series.”

This excellent series of educational works on Good Health for School Children consists of five books containing the minimum of anatomy and substituting instead the essentials of hygiene, the idea being to develop in the child the habits of right living. The books are in direct accordance with the civic improvements of the day and we believe, with the publishers, will do much for the promotion of good health, morals and good citizenship. Book 1, “Good Health,” by Frances Gulick Jewett, treats of hygiene almost exclusively and presents the subject of pure air, the care of the eyes, ears, teeth and skin and the importance of exercise and bathing, etc. Book 2, “Emergencies,” by Charlotte Vetter Gulick, deals clearly with accidents and how to avoid them, emphasizing the simple remedies which children may apply. Book 3, “Town and City,” by Francis Gulick Jewett, tells children in language they can readily understand of the growth of cities and the results of over-crowding of garbage disposal, of playgrounds, public baths, of fires, of pure water supply, pure foods, infectious diseases, and their avoidance. Book 4 is the physiology of the series and presents the anatomy of the body in the excellent way of considering it from the standpoint of the child’s daily experience. Book 5,

"Control of Body and Mind," by Frances Gulick Jewett, is the psychology of the series taking up in plain language, easily understood by readers for whom the book is intended, the subjects of attention, will power, habits, character, etc.—*Gulick Hygiene Series, edited by Luther Halsey Gulick, M.D. Book I, Good Health, 12mo, cloth, 172 pages. Illustrated. List price, 40 cents. Book II, Emergencies, 12mo. Cloth. 174 pages. Illustrated. List price, 40 cents. Book III, Town and City. 12mo. Cloth, 272 pages. Illustrated. List price, 50 cents. Book IV., The Body at Work, 12mo. Cloth. 247 pages. Illustrated. List price, 50 cents. Book V., Control of Body and Mind. 12mo. Cloth. 267 pages. Illustrated. List price, 50 cents. Boston, Atlanta, New York, Dallas, Chicago, Columbus, London and San Francisco: Ginn and Company, Publishers.*

#### "Hand Book of Health."

Woods Hutchinson's book under the above title is written in his usual excellent style. Woods Hutchinson has become a recognized authority on matters pertaining to personal hygiene and public health among the general public through his popular writings, in addition to his standing as an authority among the members of his own profession. In the book under review Dr. Hutchinson has in mind the writing of a small hand book of, as he says, practical instruction for the running of the human automobile with just enough description of its machinery to enable the beginner to fuel it, run it and make roadside repairs. He makes it his aim to give positive suggestions and advice rather than negative, believing that if one just keeps on doing the right thing vigorously and joyously he will never need to worry about the wrong. Dr. Hutchinson believes that knowledge of truth should have no terrors and that when a child is properly instructed in matters of health and its questions properly answered, its oft-times inherited fears are reduced rather than added to; he takes up this point intending his book to be of use to those of its readers who have children in their charge. The book is thorough and up-to-date in every respect; its value being materially added to by 328 excellent illustrations and two plates in color.—*A Hand Book of Health. By Woods Hutchin-*

*son, M.D. Sometime Professor of Anatomy, University of Iowa. Professor of Comparative Pathology and Methods of Science, University of Buffalo; Lecturer, London Medical Graduates College and University of London. Boston, 4 Park St., and New York: Houghton Mifflin Co. (The Riverside Press, Cambridge). \$1.25 net.*

#### "Hazell's Annual for 1912."

As a handy sized compendium, relating to political, social and scientific events, which have happened during 1911, Hazell's Annual for 1912 is without a peer. In addition it is encyclopaedic in its character and is thoroughly indexed, one being able to secure from it information desired in short form on almost every subject which might constitute a topic of conversation among educated people. It takes up, for instance, political and social movements; art; science; music; literature and the drama; important international affairs; certain statistics and histories of foreign countries; production, commerce and communication in the British Empire; the religious, charitable and philanthropic societies; etc.—*Hazell's Annual for 1912. A Record of the Men and Movements of the Time. Edited by Hammond Hall. 27th year of issue. London, England: Hazell, Watson and Viney, 52 Long Acre, W.C., 1912. 3/6 net.*

#### "The Causation and Prevention of Typhoid Fever."

This is a discussion of Typhoid Fever with special reference to conditions observed in Yakima County, Washington, issued as Public Health Bulletin No. 51, by the Public Health and Marine Hospital Service of the United States. Included in the general discussion of Typhoid Fever, the author, Past Assistant Surgeon, L. L. Lumsden, takes up its causation, the nature and viability of the infectious agent; the principles of prevention and the prevalence of Typhoid in the United States. The Typhoid Fever situation in Yakima County, Washington, is fully discussed and is followed by 16 terse recommendations, such as: I. Abolish every insanitary privy, privy vault, cesspool and septic tank in the city and replace these in the non-sewered areas with sanitary privies; II., Exercise rigid

official supervision over all privies, make sure that they are maintained at all times in a sanitary condition; and so on. The book contains a number of very valuable cuts together with an excellently detailed map of North Yakima, Washington. *The Causation and Prevention of Typhoid Fever. With special reference to conditions observed in Yakima County, Washington, being Public Health Bulletin, No. 51, issued by the Public Health and Marine Hospital Service of the United States.* By L. L. Lumsden, Past Assistant Surgeon, U. S. A. Prepared by direction of the Surgeon General. Washington: Government Printing Office, 1912.

### "Natural Therapy."

While recognizing the value of drugs properly administered, the author of this most interesting book states his greater reliance upon more lately developed methods of treatment. He alludes to fashion in drugs, strongly manifested in the empirical stage of the history of medicine, not so far removed from modern times, and gives interesting examples of special drugs and methods of a treatment being "run to death." The author has endeavored and has succeeded well in embodying the general points of interest and importance in the department of natural therapy with which he deals, taking up: The use of Water in the Treatment of Disease, Hydrotherapy, including the technique of packs, poultices, etc.; the Nauheim Baths, Peat, Fango, and other medicated baths; Heating and Light in the Treatment of Disease, including Thermo-therapy, Hot Air, Steam and Turkish Baths and Phototherapy; Massage, etc., including Massotherapy and the Rest Cure; Electrotherapy, including Galvanism and Faradism, Sinusoidal Currents, Hydro-Electric Baths, Static Electric and High Frequency Currents; Diet, general principles and composition of food; Diet in Health; Diet in Disease; Special Diet Cures; The Modern Cure, including hydropathic and "cure" establishments, foreign mineral waters. The plates throughout the book, and other illustrations are exceptionally good, and there is attached a very useful bibliography and a full index.—*A Manual of Natural Therapy.* By Thomas D. Luke, M.D., F.R.C.S. (Edin.); Physician to the Peebles Hydropathic Establishment, Peebles, N.B.; Lec-

turer at the University of Edinburgh; Formerly Physician at Smedley's Hydropathica and Sanatorium, Matlock; Assistant Visiting Physician at Smedley's Memorial Hospital; Physician to Hazelwood Hydropathic Establishment, Grange-over-Sands, etc.; Fellow of the British Balneological Society; Member of the Electro-Therapeutic Society (Royal Society of Medicine). Bristol: John Wright and Sons, Limited. 7/6 net.

### "Health to Date."

Dr. Fernie points out in the preface of this entertainingly written little book that it is his last effort in the publishing line after some eighty years of a busy life journey. He treats his subject in a discursive manner taking up the advances of the last couple of decades in medical and hygienic science.—*Health to Date. The Modern Doctor with Newer Methods of Cure.* By W. T. Fernie, M.D. 477 pages. Fully indexed. Bristol: John Wright and Sons, Limited, 4/6 net.

### "Home Waterworks."

There are three reasons why rural families have not in the great majority of instances adopted the convenience of a private waterworks system on their premises where a civic supply of water is unobtainable: First, because the idea may not have occurred to them; second, because they did not know how to go about it, and, third, because they mistakingly thought the expense too great. The book under review eliminates these reasons and makes the construction of a home waterworks plant simple and inexpensive. It is addressed, the introduction points out, especially to the man and woman at a distance from the libraries, exhibitions and daily notes of progress which are the main advantages of living in a large city and makes plain that as an investment for the home nothing is known so likely to yield as great a return in saving woman's strength, preserving health, in giving pleasure to housework and in lifting the general tone of the material side of rural life.

The book is divided into eighteen chapters, dealing with: Sources of Water Supply — Underground Water; Sources of

Water Supply—Wells and Their Requirements; Sources of Water Supply—Springs, Rivers, Lakes and Cisterns; Pumps and Their Action; Standard Types of Pumps; Running Water—Pneumatic Tank; The Siphon—The Hydrosatic P.-K. Theory; Methods of Pumping—Hand Power, House Power—Windmills; Methods of Pumping—The Gasoline Engine and Steam Engine; Methods of Pumping—the Electric Motor; Water Power, Plumbing and Sewage Disposal.

The book is well arranged, well illustrated and fully indexed, and while its statements are correct it is not so technical as to confuse the general reader.—*Home Waterworks. A Manual of Water Supply in Country Homes. By Carlton J. Lynde, Professor of Physics in Macdonald College, Quebec. Illustrated. 270 pages. New York: Sturgis and Walton Co. 75c. net.*

#### “Modern Methods of Sewage Purification.”

The author declares his intention in writing this book to be that of dealing with the question of sewage purification chiefly from an engineering and practical point of view. He therefore describes a number of efficient methods of sewage disposal, discussing at the same time the practical and financial points in connection with the same which require consideration. He deals mainly with the problem in relation to a town of moderate size, but the book will be found useful to all those who have to do with this department of public health affairs.

The author's introduction deals with the cause of progress in matters relating to sewage disposal, a local typhoid fever epidemic, insanitary condition of certain rural districts, recent progress in sanitary work, cause of failure of many sewage disposal works and bacteriology in relation to sewage disposal—and is followed by discussion of the Historical Aspect of Sewage Purification; Conservancy Methods, etc.; Drainage Areas, Water Supply, etc.; Sewerage Systems, etc.; Rainfall, Storm Water, etc.; Variations in Flow of Sewage, Observed in Selecting a Site for Sewage Disposal Works, etc.; Preliminary Processes; Disposal of Sludge; Land Treatment of Sewage; Contact Beds; Percolating Filters; Trade Wastes; Miscellaneous; Purification

Works in Actual Operation. These divisions are followed by an index and the work contains a number of excellent plates.—*Modern Methods of Sewage Purification. A Guide for the Designing and Maintenance of Sewage Purification. By G. Bertam Kershaw, Consulting Engineer: For 12 years Engineer to the Royal Commission on Sewage Disposal; Fellow of the Royal Sanitary Institute; Fellow of the Royal Meteorological Society; Fellow of the Geological Society, etc. With tables, illustrations in the text and thirty-six plates. London: Charles Griffin and Co., Limited, Exeter St., Strand. Price 21s. net.*

#### “Studies Upon Leprosy.”

The authors of this excellent series of studies point out that the great obstacle in past investigations of leprosy has been our inability to artificially propagate the bacillus of the disease and that a record of the results of present methods in this respect should result in renewed interest and the acquisition of knowledge that will be of use in the control of leprosy. The first paper on the subject by Donald H. Currie, Moses T. Clegg and Harry T. Hollman, takes up the question of the artificial cultivation of the bacillus, reviewing literature on the subject—followed by a description of the technique and present status of the artificial cultivation and study of *B. Leprae* by the United States Leprosy Investigation Station, Hawaii. The next paper, by the same authors, describes the attempts of specific therapy in leprosy, reviews the literature on the subject, and gives details of preliminary work—describing the products of the authors' cultures of *B. Leprae* that were prepared and used in treatment, the animal experiments with these substances and the use of them on patients in the authors' care. The paper on “Immunity” is written by Donald H. Currie and Moses T. Clegg, that on “Further Investigations in Rat Leprosy” by Donald H. Currie and Harry T. Hollmann, and “A Statistical Study of the Nasal Lesions in Leprosy” is by Harry T. Hollmann. These papers are printed by the Government Printing Office at Washington and carry with them the authority of all such publications emanating from the United States Government.—*Studies upon Leprosy. Being Health Bul-*

*letin No. 47 and Public Health Bulletin No. 50. Washington: Government Printing Office, 1912.*

### "The Taylor Pocket Case Record."

The object of this book is to encourage more accurate observation and study of cases by supplying a convenient form for a condensed record of each important case, in pocket size, so that the practitioner can have it always with him, and so arranged that the necessary data can be written down in the briefest possible time—preferably while the examination is actually being made. Thoroughness of examination is encouraged by means of a Syllabus, detailing all the points that should be considered in each case. And the blank for the first thorough examination diagnosis and treatment is followed by spaces for sixteen subsequent visits. The book provides for 120 cases.—*The Taylor Pocket Case Record. By J. J. Taylor, M.D., 252 pages, tough bond paper; red limp leather. Published by The Medical Council Co., Forty-second and Chestnut Streets, Philadelphia, Pa. Price, \$1.00.*

### "Walker's Medical Loose-Leaf Pocket Book."

This useful little book is having a very large sale in the old country and should meet with considerable favor elsewhere. By the adoption of the loose-leaf method the publishers have been able to produce a pocket book-keeping system of modest dimensions capable of meeting the widely different needs of varying medical practice. And through this means any section may be so modified as to fulfil the requirements of the practitioner. Each book contains labeled divisions for: Visiting List; Addresses; Cash Accounts; Record of Visits; Accounts Rendered; Vaccination; Engagements; Treatment Sheets; Ledger Sheets; Nurses' Addresses; Case Sheets; Obstetric Engagements; Temperature Charts; Obstetric Table; Treatment of Cases of Poisoning Card; Duplicate Prescription Sheets; Eye-letted Blotting Sheet and a Carbon Sheet

Holder. And accompanying it is a system of transfer cases in which all the details of practice can be so arranged as to be easily referred to at any time.—*Walker's Medical Loose-Leaf Pocket Book, London: John Walker and Co., Limited, Faringdon House, Warwick Lane, E.C. Toronto: The J. F. Hartz Co., Limited, 406-408 Yonge St. Flexible morocco, leather lined, \$3.00. Flexible Morocco, leather lined with pocket, leather band and button fastener, \$4.00; Flexible Morocco, leather lined with pockets, leather band and button fastener and back loop and pencil, \$4.50.*

### Publications Received for Later Attention.

The following books will be reviewed next: "Second Review on Recent Advances in Tropical Medicine"—"The Origin of Life"—"Meat Hygiene"—"The Key to Sex Control"—"Everybody's Guide to the National Insurance Act"—"Prophylaxis and Treatment of Internal Disease"—"Woman"—"Genesis"—"Productive Farming"—"Dental Disease and Its Relation to General Medicine"—"Military Law Examiner"—"Manual of the St. John's Ambulance Association"—"The Kingdom of Dust"—"Health and Medical Inspection of School Children"—"International Clinics"—"Health Readings"—"The Home Hand Book on Health and Hygiene"—"Scientific Features of Modern Medicine"—"Fourth Report of Wellcome Tropical Research Laboratories"—"The Doings of the Brambles and Other Stories"—"Ships' Hygiene"—"Immunity"—"Annual Report of the Surgeon-General of the Public Health and Marine Hospital Service of the United States for the Fiscal Year 1911."

And receipt of these publications, not mentioned elsewhere in this issue, is hereby acknowledged: "The Royal Architect"—"The Western Municipal News"—"The Educational Review"—"The Fruit Magazine"—"Merck's Archives"—"Monthly Bulletin, State Department of Health of New York"—"The Prescriber"—"Western Medical News"—"Educational Record"—"Plumbers' Journal"—"The Canadian Teacher"—"Clean Milk Bulletin"—"Bulletin of the Winnipeg Department of Public Health"—"Bulletin of the Toronto Department of Public Health"—"The Prevention of Pollution to Canadian Surface Waters"—"Report of the Special Investigation into the Cause of Typhoid Fever in the Town of Sarnia"—"Extract from the 32nd Annual Report of the New York State Department of Health"—"Report of the 11th Annual Conference of the Sanitary Officers of the State of New York"—"O. A. C. Schools and Teachers' Bulletin, accompanied by Announcement for 1912"—"Conservation"—"Progress in Medical Education"—"American Journal of Public Health."

## Open Mail

To the Editor, *The Public Health Journal,*  
*State Medicine and Sanitary Review:*

### A Letter from the British West Indies.

Sir,—A recreation trip through the B. W. I. is varied and enjoyable, and this the more when we pass from where Frost is King to tropical environment. Prominent features are the colored inhabitants, and though these are freely distributed over America, yet the B. W. I. have a higher grade of this race, than the writer has hitherto fallen in with, and they do more than favorably compare with the races, white and colored, that are features in the United States and Canada. For instance, marked courtesy is the rule from the urchin on the street up to and including government officials of all kinds. In peregrinating the streets of various localities and in various towns for the past two months, I have not only seen a minimum of drunkenness or rudeness of any kind, but heard no vile language, cursing or swearing—even during the carnival of two days when license would be expected to set free the baser elements of character. As to the carnival a rare thing in the north. There are various opinions, hence forbearance is desirable—though we may quote the old aphorism, “a little nonsense now and then is relished by the wisest men.” The pleasure of inditing the foregoing remarks is the more felt because it shows to what a height of development the colored race is capable of attaining. In other countries the spirit of “I am just as good as you, and perhaps better” is so often indicated, if not expressed, that association with the peoples of these islands is made very agreeable to strangers. Long may this continue and develop, for they are destined to be the predominant factor in the development of these tropical countries. The churches of all denominations are filled with congregations reverent and respectable, but they are all colored, from black to light yellow, with a white man the exception.

*The Chinese:* These are numerous and are classed as most estimable citizens—

quiet, well behaved and attentive to business, and but very rarely are in court for civil or criminal procedure—as they say here, “If a Chinaman loses his temper he must have been badly used.”

On the 21st February, a model procession of eighty carriages, headed by a band, proclaimed the new Chinese Republic, and in the evening five street cars illuminated with colored lamps passed round the city. The demonstration was carried out in a dignified manner; no fireworks.

*The East Indian:* There is much that that might be said about this class, with the minimum to their credit. They keep themselves to themselves — a very great boon—for they are very quarrelsome and keep the courts busy with civil and criminal (in the majority) cases. Murder is very common — husbands revenging or relieving themselves of troublesome partners—and wives claiming similar privileges. They keep up their own customs and go about—the men—about half naked. The women are decently clad, but they wear their wealth in (genuine) gold and silver as rings, armlets, nose rings and circular patches fastened to the side of the nose, face or forehead, that gives, what otherwise might be a not uncomely face, a rather bizarre if not gruesome appearance.

They are the great dependance of the planters and estates for labor, as they can be depended on, though not so strong as the colored man, they make up in number and hours of work for their defects.

Most men spend their lives in special lines of human endeavor, and hence, in a strange land, certain points present themselves more definitely to a medical man than they may do to others.

I. *Ventilation and Heating:* A most difficult and yet unsolved problem in the north is here eliminated, ergo diseases resulting therefrom should be eliminated. They are not—but of this again.

II. *Water Supply:* In the north, the question is, get your water from a pure source, or purify it. Here it is a much more complicated problem. A few places

have an A.I. supply, but the majority must depend on rain water, with all that this implies, including a probable water famine from delayed rainfall.

This subject has received great consideration from the "powers that be," and its solution is variable.

In entering Hamilton, Bermuda, it looks as if there had been a heavy snowstorm and the roofs deeply covered with snow, which embowered in verdure looked very quaint. The explanation—"the law requires that the roofs of all buildings be lime white-washed every six months" to insure cleanliness and purity of the water in the cisterns upon which every one must depend for potable water. *In passant* let us remark that the water was clear, pure and very palatable, and it is not looked on as a probable cause of disease.

III. *Sewerage*: No two places are alike and the question is difficult of solution, but the authorities are alive to the question.

IV. *Yellow Fever*: This has been practically eliminated and credit for it is due rather to the governments than public opinion. In conversation in Demerara with parties of a social status, where ignorance was not to be anticipated and pride in sanitary efforts expected—the opposite condition presented—either "damning with faint praise," or growling about the expense and annoyance that resulted, and yet results from hygienic effort. On mildly suggesting that "you were often almost decimated by yellow fever, now it is almost a memory," their response was that the mosquitoes had nothing to do with it, etc., and no argument was convincing.

V. *Malaria*: This is still rife. The *Anopheles* mosquito is more difficult to handle than the *Stegomia*.

VI. *Typhoid Fever*: This is endemic, rarely epidemic, and the same may be said of infectious disease generally.

VII. *Tuberculosis*: In this climate, which should be ideal for the treatment and prevention of this malady, strange to say, it is even more rife than in our northern climes, amongst residents of the cities particularly — not so much in the country and to but a limited extent amongst the white population. In deaths from all causes in Port of Spain, 15 or 20 per cent., are from tuberculosis (statistics of 1910); 300 in 1800, with a population of 60,000. Dr.

Masson, who has devoted much attention to this subject, has a map of the city, locating each death, and going over it you can see every densely populated part in bold relief, and this is one part of the explanation of the prevalence of the disease; the other the want of tuberculosis (excuse the adjective) cleanliness.

The solution of the question does not appear to me difficult, as it is not "*How can it be done?*" but "*Where are machinery and finances to carry it out?*" The machinery is likely available, or easily obtainable, but the expenses!!!

In the ensuing remarks let it not be assumed that there is any assumption of superior knowledge, or that anything has been noted that is not thoroughly familiar to all those whose attention has been thus directed, and, moreover, nothing hygienic of a date later than Moses, the great Jewish law-giver.

We should not only go to the Bible for our religion, but for the only perfect system of hygiene that has been thus far developed. Read carefully the laws laid down by Moses—read between the lines—they contain more than is expressed; let us for a moment consider the subject: The problem he had to solve was "given a down trodden race of slaves emasculated by syphilis, tuberculosis, the 'Flesh pots of Egypt,' etc., and withal troublesome and quarrelsome, asking "Who has made you a ruler over us." We need not go into many details. What was done?

1. They were removed from Egypt to the Arabian desert and spent forty years, accomplishing a distance that a boy and a donkey could do in a few days.

2. All the sick and diseased were removed a distance from the main camp, and all intercourse prohibited. Every new case of sickness was at once relegated to the non-intercourse contingent.

3. The camps were frequently changed, thus leaving behind them the humanized filth for a sanitary location, to be again changed before appreciable foulness resulted. We may add it would not take the natural sanitary laws long to effect purification of the foul camps.

4. Not an individual that left Egypt set foot in the promised land — even Moses himself only saw it at a distance.

5. He instituted sanitary laws, that, as

far as we at present can see, are explained by modern discovery. Others there are that we cannot see the reason for their promulgation (as yet). It would be an ignorant or unthinking critic who would deny their value or efficiency for Moses as a hygienist, has not yet been approached, and how far he is yet ahead of us we may not surmise.

The Result.—From most defective material he developed the most virile race on God's footstool, that has endured the most brutal and continuous persecution in almost all lands for centuries—that endemics or epidemics, social or pathological, can not phaze—and the only race that, if not immune to, is less afflicted by tuberculosis than any other of which we have knowledge.

What then would Moses have done if our tuberculosis problem had been presented to him for solution? It is a safe proposition to compare the greater with the less. And we can surmise several answers that would comply with the principles he carried out in the Exodus.

1. Remove all the people from infected districts; separate the diseased from the healthy; disinfect the disease districts by time or fire, or by both.

2. See that they have adequate nourishment and exercise.

As this may be practically unattainable, "if the mountain will not come to Mahomet, let him go to the mountain"—if you cannot get what you want, get as near it as you can.

Let us assume that it is practicable to send a sanitary engineer to every infected locality, see what the defects are and have the power to remove them, and disinfect the balance. Then place all the sick by themselves. All the sanitarium needed here is, put them in the forest, protect them from sun and rain and feed them. Hence the financial cost is the question to solve.

Half measures in the treatment of tuberculosis is about of as much service as to attempt to lengthen a blanket by taking a piece off one end and placing it on the other, or whipping the devil round a stump—you always get back to the same place.

There are a host of details that need not be entered on now.

In our colder climate a modification of plan must be considered, but the mosaic idea or principle must be adhered to otherwise, one need not hesitate to prophecy that the extirpation and real cure of tuberculosis can not be obtained.

These principles are:

1. Segregation of the afflicted. Those capable of cure will get well; the others, while passing *ad majores eorum*, should receive the best of care.

2. Disinfection of tainted habitations—of every place that a tuberculosis patient has dwelt or worked in. Cleanliness of living.

3. Adequate nutrition for all.

Each of these ideas could be carried out by different methods, of which I have not space nor time to define, but which are detailed in Circular No. 27 (Nova Scotia Department of Public Health) and Report of 1911.

The question of sanatorial treatment, just now very much in evidence in all countries, has elements of failure involved in it. Take one point alone. In Nova Scotia we have an estimated tuberculosis population (needing specific treatment and care) of over 5,000. There is no room for argument—it is an impossible proposition. Yet these must be cared for. And it can be most efficiently done by making everyone's house sanitary and segregating the afflicted at their own homes, while seeing that they get adequate nourishment—for special medical treatment (other than hygienic) is needed by but a few.

The remedial agent, fresh air, is furnished gratis and the domicile a matter of finance, taste or convenience and need cost but little—and the less the cost, may be the more hygienic. It appears to me we have a wealth of honest, but ill-directed effort—ill-directed because there does not appear to be continuous effort in the sole direction of segregation, disinfection and nutrition. Popular education is good so far as it goes, but it will be inefficient unless backed up by the government health official, who must point out to each individual wherein he errs—and be in a position to see that the error is corrected.

A. P. Reid, M.D.,  
Provincial Health Officer for Nova Scotia.  
Port of Spain, Trinidad.

## Meetings and Reports

[Material for this department to appear in any month should be transmitted before the 25th of the proceeding month to The Public Health Journal, 43 Victoria St., Toronto, Canada.]

### DOMESTIC

#### Vancouver Health Report.

Dr. F. F. Underhill, Medical Health Officer of Vancouver, B.C., has published his annual report for 1911. The report is dated January 15th, 1912, which displays some quickness on the part of Dr. Underhill and his assistants. While the report is not a large one, it contains evidence that a great deal of excellent work has been done by the inspectors. The tone of the report is one looking to further improvement and we believe that Dr. Underhill is the man to get what he wants in this respect. Vancouver has a population of 100,000 and a death rate of 11.3. Infectious diseases are reported as having been fairly high and as having included some 49 cases of Small-pox and 212 cases of Typhoid Fever. Dr. Underhill makes some strong statements regarding the neglect of vaccination against Small-pox and warns the public of the risks they run in neglecting this prophylactic measure.

#### Twelfth Annual Meeting of the Canadian Association for the Prevention of Tuberculosis.

Dr. George D. Porter, Secretary of the Canadian Association for the Prevention of Tuberculosis, has arranged a most excellent programme for the twelfth annual meeting of this Association to be held in Margaret Eaton Hall, Toronto, on Monday and Tuesday, 20th and 21st of May next, beginning at 10 a.m. The meeting will be under the chairmanship of the President, Dr. J. George Adami. The Margaret Eaton Hall, situated on North Street, is easily reached by a Belt Line car.

The programme provisionally reads as follows:

*Monday, May 20th, 1912.*

10 a.m.—Reports from Delegates. Report of Executive Council. Notification of Phthisis, by Dr. D. A. Craig, Lake Edward, Que. Appointment of Committees.

2 p.m.—Address by J. George Adami, M.D., F.R.S., President. Modern Public Health Teaching in Relation to the Control of Tuberculosis," by Dr. Frank West-

brook, University of Minnesota. "Some Social Aspects of Tuberculosis," by Mrs. Adam Short, Ottawa.

8 p.m.—Address of Welcome by His Worship, the Mayor of Toronto, and the following paper: "The Administrative Control of Tuberculosis," by Dr. Hermann M. Biggs, General Health Officer of New York City.

*Tuesday, May 21st, 1912.*

10 a.m.—"The Importance of the Pre-tubercular Stage," by Dr. C. R. Paterson, St. Agathe. "The Value of the Dispensary to Public Health," by Dr. E. S. Harding, Montreal. "The Treatment of Pulmonary Tuberculosis by Means of Graduated Labor," by Dr. Oliver Bruce, London. "The Care of the Patient after leaving the Sanatorium," by C. D. Parfitt, M.D., Gravenhurst. Reports of Committees and Election of Officers.

3.30 p.m.—Reception by The Heather Club at the Lakeside Hospital Grounds, Toronto Island.

#### Fifth Annual Report of the Alberta Department of Education.

We have just received the Fifth Annual Report of the Alberta Department of Education in which D. S. Mackenzie, Deputy Minister of Education, points out that the year 1910, which the report covers, greatly surpassed all former years in the work of organization, there being organized during that year 251 new districts. During 1910 the school attendance reached 55,307, being a gain of 20 per cent. on the former year and during that year authorization was given for the issue of school debentures amounting to \$1,000,000; this latter fact in itself being evidence that tax-payers of Alberta are prepared to spend money freely for the purpose of providing suitable buildings and equipment for school purposes. In fact in a number of cases, Mr. Mackenzie remarks the Department found it necessary to restrain school boards from raising as much money as their optimism suggested. Notice is also taken in the report of the somewhat fluctuating pro-

portion existing between the number of pupils in rural schools and that in village and town schools:

Year.	Rural.	Urban.	Total.
1905 . . . . .	13,619	10,635	24,254
1906 . . . . .	14,576	14,208	28,784
1907 . . . . .	15,344	17,994	34,338
1908 . . . . .	19,599	20,054	39,653
1909 . . . . .	23,165	22,883	46,048
1910 . . . . .	29,835	25,472	55,307

Mr. Mackenzie supplies in this report information for teachers outside the Province covering regulations for the obtaining of teaching certificates.

The book is divided into three parts, Part I. containing the introductory report of the Deputy Minister and general statistics. Part II. contains the Report of the Principal of Normal School, Reports of Inspectors and the Report of the Supervisor of Schools among Foreigners. Part III. includes Programme of Studies, Course of Studies and Annual Examination, Standard V. Regulations governing Text Books, Standards, L.-V., Rhodes Scholarships and Examination Papers.

### Dominion Fruit Growers' Conference.

The third Dominion Fruit Growers' conference was held in St. Patrick's Hall, in the City of Ottawa, on the 14th, 15th and 16th of February, 1912.

Among the most important of the resolutions passed by the convention was one dealing with the Standard Apple Box, in the following terms:

"Be it resolved. That this conference recommends for domestic trade, the legalization of the apple box at a capacity of 2,200 cubic inches, as nearly as possible measuring twenty by eleven by ten (20 x 11 x 10) inches inside; and be it further resolved, that this amendment come into force within two years."

Other resolutions of importance were as follows:

"Whereas, the discussion has brought out considerable difference of opinion as to the most suitable shapes for the various box packages of fruit, be it resolved, that discussion on this subject be deferred in order to enable the various Fruit Growers' organizations to investigate thoroughly and report with recommendations, to the next Dominion Fruit Conference; and be it fur-

ther resolved, that the conference request the Dominion Department of Agriculture to organize the investigation."

A resolution was carried recommending the legalization of the four-basket plum crate measuring 15 3-4 x 15 3-4 x 4 1-4 inches inside measurement.

"Resolved, that we urge upon the Minister of Agriculture the greatest care in securing competent inspectors and to this end suggest that the advice of a commission of three fruit growers, or dealers, from each fruit growing Province would be of valuable assistance in securing suitable men for appointment as inspectors.

"Resolved, that sufficient inspection at point of entry in connection with imported deciduous fruit be made so as to ensure it being marked under the conditions of the Inspection and Sales Act.

"Resolved, that the Minister of Agriculture cause investigation to be made as to the possibility of giving the applicants, on payment of a reasonable charge, a certificate of the results of any inspection made.

"Resolved, that when an inspector has examined a closed package of fruit, it be stamped 'Inspected by No. ....'

"Resolved, that the Fruit Marks Act (the Inspection and Sales Act, Part IX.) be so amended as to make it compulsory to mark on the outside of the box the number of apples contained therein.

"Resolved, that this conference recommend that the Department of Agriculture divide the Fruit Growing Provinces into suitable districts, with a permanent and capable fruit inspector and instructor, in each district, so as to insure to the greatest possible extent inspection at point of shipment."

A resolution was adopted recommending the formation of a National Fruit Growers' Association, and the secretaries of the various local associations were appointed to perfect the organization after a provisional constitution had been adopted by the convention.

### The Amended Ontario Act.

The principal new feature of the Act respecting Public Health in Ontario is found in clause 13, under which the Lieutenant-Governor in Council may divide the Province into ten health districts, and appoint any legally qualified medical practitioner

as district officer of health, but a city having a population of 50,000 or over shall not be included in such district.

The working of this section, it is expected, will meet the requirements of those who are looking for compulsory notification in respect to persons suffering from infectious diseases, and the health officer of the district will have power to deal with any situation that may arise. In consolidating the clauses the old act has been stiffened, while the definition of "communicable diseases," has been considerably widened. This definition includes "any contagious or infectious disease," enumerating many, and "any other disease which may be declared by the regulations to be a communicable disease." To prevent the law becoming a hardship in exceptional circumstances, certain enabling clauses are introduced, giving the health officers discretionary power to exclude certain "communicable" diseases from some of the requirements of the law.

To strengthen the hand of the local health officer, he will hold office during good behavior and can only be removed by the Provincial Board. The medical health officer will be the executive officer of the board, and shall be responsible for carrying out the provisions of the act and the by-laws of the municipality. A new clause declares that the medical health officer shall be paid a "reasonable salary to be fixed by law." An annual conference of health officers is provided for, the expenses of which are to be paid by the municipalities, the Yearly Congress of the *Canadian Public Health Association* offering the opportunity for such conference.

Persons desiring to establish or keep a hospital, sanitarium, or institution in any municipality will have first to secure permission from the local board to do so.

Clause 87 is ample in its provisions. It declares that where, in the opinion of the health officer, premises are so situated, constructed or improperly lighted, or of such a character or condition as to be unfit for human habitation or dangerous to health, "he may cause such premises to be closed, and may affix a notice thereon in a prominent place setting forth the reason for such closing . . . and no person shall pull down or deface such notice, or use the premises closed as a dwelling."

The feeding of decomposed food to hogs,

under section 100, can be prevented by the health officer, who, at his discretion, may seize and carry away the hogs so as to prevent their removal. Any butcher selling meat shall be required to produce an affidavit that the place at which such meat is slaughtered is open to inspection, and, in the case of slink veal the burden of proof is on the person charged.

Where the local Board of Health fails to act, the Provincial Board is given power to step in and carry out the provisions of the Act. The municipality will be liable to the Province for the costs of such action.

Where a local Board of Health neglects to appoint a Health Officer the Province may make the appointment.

The Provincial Inspector of Health is given authority to exercise, anywhere in the Province, any of the powers conferred by the Act, on local health officers. This applies also to all the members and officers of the Provincial Board.

Secretaries of local Boards of Health will be required to make to the Provincial Board weekly reports of number of cases of and deaths from communicable diseases.

#### Agriculture in Ontario Schools.

Teachers, trustees and others concerned in the advancement of our schools, will be interested in reports contained in Circulars 13, 13A and 13B just issued by the Ontario Department of Education; in them the intentions and plans of the Department regarding the teaching of Agriculture are fully set forth. It is hoped that everybody in Ontario who is interested in any way in the work of the schools may become acquainted with the scheme and that a strong public sentiment may favor the general adoption of the work.

Circular 13 gives the revised regulations governing the distribution of grants. School Boards are encouraged by liberal grants to undertake the work. Where the work is carried out under a teacher holding a certificate in Agriculture, an initial grant of \$50 and subsequent annual grants of \$30 can be earned; but no Board will receive more than it expends on the work. Where the work is carried out under an uncertificated teacher, the grant is \$12 when practical work in the school grounds is made part of the course, and \$8 when the practi-

cal work by the children is carried on in home gardens. The special grants to teachers range from \$8 to \$30.

The plan is to have one hour a week, throughout the year given to the study, which shall be of a practical character and related closely to local interests. A small garden on the school grounds will be used for simple experiments as well as vegetable and flower pots. The growing of shrubs, vines, window boxes and hanging baskets to beautify the school and its surroundings will be considered part of the work also.

A survey of the work done in Ontario during 1911 is included in the circular. This shows that school gardens for which grants were given, increased from fifteen in 1910 to thirty-three in 1911, and that \$2,320 was paid out in special grants. Besides there were over sixty other schools reporting work in school gardening. A very large increase is already assured for this year.

Circular 13A shows how the Agricultural College lends itself as a teacher-training school in this cause. The work of the ten weeks' spring term and the four weeks' Summer School in July are fully outlined. No fees are charged for instruction in these courses which lead to a certificate in Agriculture. The attendance last July reached two hundred. A larger attendance is expected this year and preference is given to successful teachers of experience. Applications should be made early.

Circular 13B is issued as a practical guide to pupils in gardening. The intention is to have it used as a supplementary school reader. Pupils carrying on the work will add to its pages with accounts of their own experiences. Schools will be furnished free with a sufficient number of copies for the use of their classes.

Other publications are under preparation for the schools. In the course of a few weeks the Department will send out to all the schools the first two of a series of agricultural lesson charts; one dealing with Alfalfa, and the other with the advantages of Early Seeding. Accompanying these there will be pupils' circulars supplementing the information given on the wall chart. Moreover, supplies of seed will be furnished the school free for small practical studies to be carried out in conjunction with the chart in small plots in the school grounds. All schools may thus readily engage in the

work. It is hoped that teachers may be encouraged by trustees and parents to take it up.

Other charts, bulletins and supplies will be forthcoming from time to time. It will be easily possible for every rural school in Ontario to give its pupils valuable instruction in the principles of Agriculture. The support of every one having the welfare of our schools at heart is solicited.

Copies of the circulars are sent to all the schools for the use of teachers. Other persons desiring copies of these publications or particulars regarding the distribution of seeds to the schools, may apply to the Director of Elementary Agricultural Education, Ontario Agricultural College, Guelph, Canada.

#### Protest Against Increasing Flow of Chicago Drainage Canal.

The Canadian government and diversified Canadian interests entered formal objection with U. S. Secretary of War on 27th of last month against a further increase of the quantity of water taken from Lake Michigan by the Chicago sanitary canal.

Application was made by Chicago to the Federal government for permission to increase from 4,000 cubic feet to 10,000 cubic feet, the amount of water to be taken from Lake Michigan for such purpose, and Ambassador Bryce had arranged to present a delegation of official experts to lay before the secretary Canada's objections.

Daniel Mullen, of St. John's, N.B., appeared as counsel for the Canadian government and said he was authorized to protest against any increase in the amount of water diverted from Lake Michigan, on the ground that, while Lake Michigan is not a boundary water, the right of Canada to navigate the lake is assured by treaty, and that the lake, as a tributary of the boundary waters between the United States and Canada, comes under the jurisdiction of the international joint commission.

He assured Secretary Stimson that the Canadian government is willing to permit the case, as at present submitted, to go to a decision on the question of the effect of the proposed diversion upon navigation. He gave notice, however, that Canada reserved the right, should the War Department grant the permit asked by the sani-

tary trustees, to appeal to the international joint high commission, which is composed of three Canadian and three United States commissioners.

Mr. Mullen argued that the present diversion of water from Lake Michigan through the Chicago River is lowering the levels of the boundary waters, and is seriously impairing Canadian interests. He asserted that the international waterways commission had not authorized the diversion of 10,000 cubic feet per second as now asked for by the sanitary district trustees, but had mentioned that quantity as the extreme maximum which under any conditions could be considered.

He placed considerable emphasis upon his argument that the diversion of water at Chicago is a complete loss to navigation, while the diversion at Niagara Falls does not affect navigation, for the reason that the water taken from the river above the falls is returned for the use of navigation below the falls.

The Canadian government is unwilling to admit, he said, that while sanitary and domestic uses are placed ahead of navigation in the treaty relating to the great lakes that it was ever contemplated that any municipality should be unrestricted in the use of water for sanitary purposes.

The Canadian government contemplated, he asserted, in agreeing to the treaty, that the municipalities on the great lakes should avail themselves of modern means for disposing of sewage and not depend upon dilution. He declared that it is the opinion of the Canadians that the increased diversion is desired not for sanitary purposes, but for purposes of generating additional electric power.

Vessel owners and harbor city engineers from Canada were at the hearing.

Under the suggestion of the Secretary of War, John C. Williams, counsel for the Chicago sanitary district trustees, and Mr. Mullen, representing the Canadian interests, will arrange for an exchange of briefs and for the final submission of the case to the Secretary of War.

#### **Dr. J. A. Amyot's Hint to Avoid Consumption.**

Dr. J. A. Amyot, of Toronto, provincial bacteriologist, lectured recently in Ottawa on Tuberculosis. The lecture was one of

a series arranged for by the Ottawa Anti-Tuberculosis Society, with a view to disseminating knowledge of the causes and means of prevention of this disease. Dr. Amyot spoke in French and went thoroughly into the origin and progress of consumption. Every seventh death in Quebec last year, he stated, had been due to it and a million and a half people passed out of the world every year at its call. In the state of New York alone some 14,500 persons died every twelve months of tuberculosis.

Tuberculosis did not affect the lungs alone, explained Dr. Amyot. It might appear in almost any part of the body. It was not an inherited disease, but there was such a thing as inherited predisposition to it. Ninety per cent. of people were, in fact, affected by it in some one form or another, but owing to the strong resistance of the human body to its encroachments it never obtained a foothold. The lecturer then went on to urge care on the part of any consumptive or person attending an individual so afflicted. Any utensils used by such a person, should be kept separate and boiled after use. Expectoration on floors or other exposed places should be rigidly avoided, as it was one of the most common and effective means of spreading the disease. The lecturer here graphically illustrated his point, exhibiting a slide which showed how the tubercle bacillus, deposited on the floor of a room as the result of the expectoration of a consumptive, was spread by the woman who swept the floor, to the food on the table consumed by the rest of the family and through the medium of a shared apple, to people outside the house.

Milk was one of the most dangerous forms of diet, stated Dr. Amyot, inasmuch as it had been shown that 16 per cent. of the herds which supplied it were infected by tuberculosis and great care should be taken in obtaining it of the best possible quality. The tuberculosis germ was everywhere, but unless the bodily resistance was lowered, there was little fear of its finding a lodging. Overwork, closed windows, dust and dirt and mouth breathing were among the common causes of lowered vital resistance. The nose was an organ which sterilized all the air which passed through it on its way to the throat and it should be allowed to perform its function.

### University of British Columbia.

The Government of British Columbia invite from Canadian architects competitive plans for the general scheme and design for the proposed new provincial university, together with more detailed plans for the buildings to be erected first at an estimated cost of \$1,500,000. The buildings are to be erected at Point Grey, near Vancouver.

Prizes of \$10,000 will be given for the most successful designs submitted.

Particulars of the competition and plan of site may be obtained on request from the Minister of Education, Parliament Buildings, Victoria, B.C., to whom designs are to be sent by July 31st, 1912.

Notice has also been given by the Provincial Secretary of British Columbia, that the first meeting of the Convocation of the University of British Columbia will be held in Victoria in the auditorium of the South Park School, on Wednesday, August 21st, 1912, at 10 o'clock a.m.

The first Convocation will consist of:—

(a) All graduates of any university in His Majesty's Dominions who have been actually residing in the Province two years prior to August 21st, 1912, and who, at least six weeks prior to this date, have registered themselves as members of such Convocation:

(b) Twenty-five members to be selected by the Lieutenant-Governor in Council.

Every applicant for registration as a member of Convocation should forward to the Provincial Secretary, Parliament Buildings, Victoria, B.C., not later than six weeks before August 21st, 1912:—

(a) His name, the Christian name or names being in full.

(b) His post-office address in full.

(c) The degree or degrees which he holds, or in lieu of parchments a certificate signed by the registrar of his university to the effect that he is a graduate of such university.

(d) The date on which he graduated.

(e) A statement giving the number of years during which the applicant has resided in the Province.

(f) The statutory fee of two dollars.

After the first Convocation, all Convocations shall be composed of the Chancellor, the Senate, the members of the first Convocation, and all persons who shall have become graduates of the University of British Columbia.

### Montreal Public School Health Report.

Defective teeth figure prominently in the annual report of the Montreal Health Officer, which has been prepared for the Board of Control, showing the condition of pupils in the public schools of the city. Of 59,685 children who were examined last year, 27,348 were not in a satisfactory state of health, and of this number 19,843 were suffering from decayed teeth. The fact did not indicate any serious physical disability, but it was pointed out by Dr. J. E. Laberge that it was necessary to take cognizance of such matters, as defective teeth often meant that there was some deeper-seated malady, such as tuberculosis, bad digestion and so forth. A detailed list of the diseases showed that there were 2,341 parasitic ailments and nasal obstruction figured out with 1,956 cases. Other diseases located were: Defects in spine, 43; in legs, 7; heart disease, 17; sore throat, 636; ear, 195; skin, 957; eyes, 903; contagious skin complaints, 58; coughs, 418; ringworm, 288; mumps, 174; measles, 225; scarlet fever, 51; diphtheria, 6; headaches, 132; and general debility, 938; Pupils not vaccinated numbered 2,140, and 2,646 were vaccinated. All children in schools are now said to have been vaccinated. Although the list of ailments looks serious enough, Dr. Laberge remarks that compared with the findings of preceding years, it is a great improvement.

### Halifax Inspection and Sale of Food By-law Amendment.

At a meeting of the City Health Board, in and for the City of Halifax, held on the 8th day of March, 1912, the following section was added to By-law No. 9, Inspection and Sale of Food:

"18. The body of any animal, or part thereof, which is to be used as human food, shall not be carted or carried through the streets of the City of Halifax, unless it be so closely covered, with clean canvas, as to effectually exclude it from dust and dirt; and no meat, poultry, game or fish shall be hung or exposed for sale in any street, or outside of any shop or store, or in the open windows or doorways thereof, in the City of Halifax."

### Advance Notices, Alphabetical.

*Canadian Association for the Prevention of Tuberculosis*, the twelfth Annual Convention will be held in Toronto, May 20 and 21, 1912. George D. Porter, M.B., Secretary.

*Canadian Dental Association and Ontario Dental Society*, Hamilton, Ontario, June 3-6, inclusive, 1912.

*Canadian Hospital Association*, Parliament Buildings, Toronto, 1912 meeting, April 4th, 5th and 6th. President, Dr. H. O. Boyce, Kingston; Secretary, Dr. J. N. E. Brown, Toronto.

*Canadian Industrial Exhibition Association*, Winnipeg, July 10-20, inclusive, 1912.

*Canadian Medical Association, Annual Meeting*, August 10th to 14th, 1912, Edmonton, Alta. Particulars later. E. W. Archibald, M.D., General Secretary, Montreal.

*Canadian National Exhibition*, Toronto, August 24th to September 9th, inclusive, 1912.

*Canadian Public Health Association 1912 Congress*, Toronto, September 14th, 16th and 17th, inclusive, Charles J. C. O. Hastings, M.D., M.H.O., City Hall, Chairman; T. Aird Murray, M.C.S.C.E., Lumsden Building; Duncan Anderson, M.D., 28 Wellesley St., and Dr. Helen MacMurchy, 133 Bloor St. East, Secretaries, Committee for Local Arrangements; particulars later.

*Child Welfare Exhibition*, Montreal, October, 1912. The objects are: I. To present evidence of all the various activities—educational, religious,

charitable, philanthropic, and medical making for the improvement of conditions of child life, so that their existence and special work may be advertised, their inter-relationship may be recognized and the public be further stimulated to support and advance their endeavors; II. To show the deficiencies in public and private organizations and to suggest remedies for the same, drawn from the experience of other communities, in this way supplementing and extending the work already being accomplished; III. To correlate the endeavors of many existing associations, developing thereby a body of concerted opinion sufficiently strong and influential to bring about the needed improvements in the surroundings and upbringing of the city child. It is proposed that the Exhibition shall have the following departments: 1. The Health of the Child; 2. The Home of the Child; 3. The Education of the Child; 4. The Moral and Religious Life of the Child; 5. The Recreation of the Child; 6. City Environment and the Child; 7. The Law and the Child; 8. The Social Life of the Child; 9. The Care of the Abnormal Child; 10. Philanthropy and the Child. The Executive Secretaries are: W. H. Atherton, Ph.D., 62 Beaver Hall Hill; Tel., Up 1380; and Rev. J. O. Maurice, L.L.L., 35 Ontario, East; Tel., East 925.

*Ontario Educational Association, Annual Meeting*, Toronto, commencing April 9th, 1912.

*Ontario Medical Association*, 1912, Toronto, May 21st, 22nd and 23rd. Dr. F. Arnold Clarkson, Secretary, Toronto.

See also Advertising Page XXX.

## INTERNATIONAL

### Seventh International Congress on Tuberculosis.

The delegates appointed to represent the United States at the seventh international congress on tuberculosis, to be held in Rome April 14 to 20, are Dr. Henry Barton Jacobs, Baltimore, secretary of the National Association for the Study and Prevention of Tuberculosis; Dr. Livingston Farrand, New York, executive secretary of the association; Dr. Charles L. Greene, St. Paul; Dr. G. Walter Holden, Denver; Dr. Gerald B. Webb, Colorado Springs, and William H. Baldwin, Washington, all directors of the national association.

An extensive exhibit on tuberculosis, showing what the United States has accomplished in tuberculosis work, has been sent to Rome for display during the congress.

The Canadian official delegates are Dr. S. Lachapelle, Montreal, and Dr. E. D. Stewart, Manitoba, who will be accompanied by Professor J. T. McKenzie, of Toronto; Dr. A. Rousseau, of Quebec, and Dr. A. J. Richer, of St. Agathe.

### American School Hygiene Association.

Dr. David L. Edsall, professor of preventive medicine in Washington University, St. Louis, presided at the sixth congress of the American School Hygiene Association, which was opened in the Harvard Medical School on March 28th, lasting two days. About fifty delegates attended.

Dr. David Snedden, commissioner of education, delivered the first address. His topic was "The Problems of Health Supervision in the Schools of Massachusetts." He gave a historic survey of the movement, and the extensive development of the law of 1906, which nearly all the cities and towns of the State have complied with.

Reports received by the Board of Education indicate clearly, he said, that medical inspection has already had some results in diminishing epidemic diseases. Schools are closed less frequently than formerly. Parents are doing more to send their children to school in better condition as regards skin diseases. The examinations of eyes and ears have resulted in

parents providing glasses, and in some cases, treatment of defects of hearing. Apart from these results, however, medical inspection, outside of Boston and a few other centres, has not had appreciable results. Health supervision is, however, being better understood.

Dr. Sneddon then went on to say that there is needed a better formulation of the scope of medical inspection, school nursing and parental responsibility. Teachers may be better trained in detecting signs of approaching ill-health or the existence of chronic defects. At present all is confusion as to the responsibility of parents where the medical inspector points out defects needing remedy. Legislation is inadequate, and in many communities it is reported that not fifty per cent. of the defects noted are remedied by parents. There is needed more adequate development of school nursing, accompanied by a better definition of the nurse's responsibilities and better provision for her training. In 42 towns in the State school physicians are also members of school committees. The results are not harmful in some cases, but the situation makes abuses possible.

"Outside of large centres of population some form of State supervision is necessary to make medical inspection effective," said Dr. Sneddon. "Physicians need special assistance when they come to deal with school problems. At present there is little available literature and naturally the traditional medical training gives little help, except regarding epidemic diseases.

"We have made but the beginnings of health supervision, as it should be called. The schools must do more in conserving and promoting the health of their charges. To this end, teachers, nurses, school physicians and parents must be brought into co-operation. Additional legislation may be required in some instances, but a more effective working programme is a greater present necessity."

Joseph Lee spoke on "School Hygiene from the School Committee's Point of View." Other topics and speakers were as follows: "Medical Inspection and the Practice of the Physician and the Dentist," Thomas A. Storey, of New York; "The School Nurse as a Link in the Chain of Preventive Medicine," Miss Margaret

E. Carley, supervisor of nurses, Boston; "Health Problems Encountered in Home Visits to School Children," Alfred E. Shipley, of New York; "The Effect of the Doctrine of Physiological Age Upon School Administration," C. Ward Cramp-ton, of New York.

"The Deaf Child," was considered by Helen MacMurchy, of Toronto; "A Study in Retardation," by L. N. Hines, superintendent of schools, Crawfordsville, Indiana; "Suggestion in School Hygiene," by William H. Burnham, of Clark University; "A Report of Dietary Studies Made at the Franklin Park Hospital for Tuberculous Children," by Dr. Edwin A. Locke, Boston; "The Hygiene and Sanitation of Summer Camps for Boys," by George L. Meylan, Columbia University; "Lesions and Abnormalities Found in an Examination of Two Thousand Supposedly Normal Adult Young Women," Myrtelle M. Canavan, Boston State Hospital. Several papers were read by title.

#### Advance Notices, Alphabetical.

*American Library Association*, Ottawa, Canada, June 26th and 27th, 1912.

*American Public Health Association Congress*, Washington, D.C., September 18th, 19th and 20th, 1912—particulars later.

*Congress of Hygiene and Demography, Fifteenth*, Washington, D.C., September 23rd to 28th, inclusive, 1912. Dr. Joseph W. Schereschowsky, Director, Dr. John S. Fulton, Secretary General.

*International Association of Medical Museums and International Congress of Medicine, Conjoint Meeting*. London, England. August 6th to 12th, inclusive, 1913, under the patronage of His Most Gracious Majesty George V., and Presidency of Sir Thomas Barlow. Dr. N. P. Harringham, Hon. General Secretary; Dr. Thursfield and Dr. Wood-wark, of St. Batholomew's Hospital, and Dr. Kettle, of the Cancer Research Hospital, Local Secretaries.

*International Congress of School Hygiene*, Buffalo, N.Y., August 25th to 30th, 1913; the fourth, but the first one held on the American continent.

*International Congress of Tuberculosis*, Rome, April 14th to 30th, inclusive, 1912.

*International Eugenic Congress*, London, England, July 24th to 30th, 1912. Address the Hon. Secretary, 6 York Buildings, Adelphi, London, England.

*International Marine Congress*, Philadelphia, July, 1912. This Congress met last year in Brussels, and when the United States authorities extended an invitation to the Congress to meet in Philadelphia, 1912, they, at the same time, invited the Canadian Government to assist in carrying out the honors of the North American Continent. The

party will, therefore, be taken over by the Canadian Government at Port Arthur after the Philadelphia meeting, and will go to Montreal, stopping on the way at Owen Sound, Toronto, Kingston, and other lake ports.

*International Red Cross Conference*, Washington, D.C., May 7th to 15th, 1912. Address. Dr.

C. R. Dickson, Secretary, Canadian Red Cross Association, 192 Bloor St. West, Toronto.

*League of American Municipalities*. The next convention of this league will be held in Buffalo, N.Y., and in 1913 it will likely be held in Winnipeg.

*Sanitary Congress of American Countries*, Fifteenth, Santiago, Chili, November, 1912. Dr. De Rio, President.

## UNITED STATES

### Smallpox in Michigan.

Dr. R. L. Dixon, Secretary, Michigan State Board of Health, tells us that during the first three months of 1912, there were reported 283 cases of smallpox in Michigan. The vaccination history of these cases is as follows: 2 cases vaccinated "50 or 60 years ago"; 3 cases vaccinated "14 years ago"; 1 case vaccinated "years ago"; 1 case vaccinated "at the time of exposure"; 1 case vaccinated "12 years ago"; 1 case vaccinated "infancy and again 10 years ago"; 1 case vaccinated "about 10 years ago"; 1 case vaccinated "some 20 years ago"; 1 case vaccinated "one week after exposure"; 10 cases vaccinated "about 3 years ago" (some doubt); 1 case vaccinated "some years previous"; 2 cases vaccinated "in childhood"; 2 cases vaccinated "when very young"; 1 case vaccinated "30 years ago"; 2 cases vaccinated "6 years ago"; 1 case vaccinated "2 years ago"; 1 case vaccinated "4 years ago"; 1 case vaccinated "5 years ago"; 5 cases vaccinated "doubtful if ever"; 245 cases "never vaccinated." Total, 283.

It costs Michigan \$150,000 a year to take care of indigent smallpox patients and to protect the unvaccinated.

### Health Cards in Washington.

The plan has been inaugurated in Washington, D.C., of distributing cards to the pupils in the public schools to be taken to their homes for the information of all members of the family who are interested in methods of sanitation. The Anti-Tuberculosis Society, at the head of the movement, believes that these cards can do effective work for there is scarcely a home in which some rule of health is not constantly being violated and in which sickness is not sometimes present.

A representative of the local society for Prevention of Tuberculosis, discussing the Washington plan, expressed approval of the idea, but said it would not be possible for his organization to meet the expense of distributing, say, 10,000 pieces of literature, containing health hints, for homes, as each would cost the society 1 or 2 cents.

### A Kentucky Report on Pellagra.

Prof. H. Garman, Entomologist and Botanist at the Kentucky Agricultural Experiment Station, has issued a report entitled "A Preliminary Study of Kentucky Localities in Which Pellagra is Prevalent."

Prof. Garman visited Bell and Whitley Counties last fall, studying the localities in which pellagrous cases are most numerous. He devoted much research to the "insect theory" of infection, studying and collecting specimens of the insect life along the creeks, where pellagra is prevalent. He also investigated the condition of the corn crop, which, he says, appeared to be quite as good as that grown elsewhere in the State.

Although the greater portion of the bulletin is taken up with descriptions of the larvæ found in the streams, Prof. Garman says he has not at any time committed himself to the insect theory of the spread of pellagra. He says he is not satisfied with the evidence and intends in his bulletin "simply to present facts which may bear upon the problem." The reader may fairly infer that in the beginning of his investigations he was predisposed to the idea that the disease is caused by some species of fly or gnat. The observations that he made, however, were by no means uniformly favorable to this theory, and Prof. Garman seems unwilling to draw any conclusions in the matter of infection, indicating that he contemplates further study on that line.

The report is interesting by reason of its descriptions of a great variety of the insect life and vegetation of the mountains. It bears the outward marks of careful and painstaking work and should be of value in the study of the mysterious disease which the scientific world is trying to elucidate.

#### Amending New York Public Health Law.

Assemblyman Brown has introduced a bill in the New York State Legislature amending the Public Health Law generally (secs. 4, 5, 20, 21, 23). It provides that whenever a local board of health in a town or village neglects or refuses to perform any of its duties, the state commissioner of health may exercise any of the powers of the local board of health or health officer referred to, and charges incurred by him in exercising these duties shall be a charge upon the municipality. It also gives the commissioner power to abate nuisances which are within the jurisdiction of two or more municipalities, and the local boards of health do not agree as to their respective powers and duties regarding it. In such a case the state commissioner of health is to determine the proportionate amount of expense which each municipality shall pay. It provides that in towns the board of health shall consist of the town board, instead of the town board and another citizen appointed by it. It is provided that the fees of the local health officer (fixed by the local board of health) may be the same as the fees allowed by the county medical society for like services. Each local board of health may, when necessary, employ experts in sanitary matters and assistants to the health officer, on the nomination of the latter, and may fix the compensation of these appointees. No action may be brought against a health officer for alleged damages resulting from any act done, or failure to perform any act, while discharging his official duties, unless a justice of the Supreme Court gives permission for such an action to be brought. If the health officer is successful in the action, he shall be entitled to receive from the municipality all his expenses and disbursements in making his defence. Certain other changes are made relating to the jurisdictions of corpses.

#### Pennsylvania Department of Public Health.

The Pennsylvania State Department of Health has issued a series of pamphlets in German, Slavish, Polish, and Italian, dealing with scarlet fever, diphtheria and typhoid fever and tuberculosis.

These circulars set forth clearly and concisely the precautions which should be observed in the care of these various diseases to prevent the infection of others and insure the most favorable conditions for the patient. They also contain the quarantine regulations.

Dr. Dixon, health commissioner, has ordered that the seven hundred health officers of the Department of Health, distribute these when placarding the house in which these diseases exist. In the mining and manufacturing districts, where there is a large foreign-born population, it is believed that these pamphlets will be of great aid in educating the people and supplementing the work of the physicians and health authorities.

It has been found by the department's tuberculosis dispensary physicians that one of the greatest difficulties encountered in their work is the ignorance of the foreign born population as to the danger of improper housing conditions. Hundreds of instances have been discovered where the victims of tuberculosis occupied the same room and often the same beds with other members of their family.

In these cases it is difficult to bring the sufferers and their families to a full realization of the danger of infection from this source.

To aid in bettering this condition the booklet on tuberculosis sets forth clearly the precautionary measures which should be followed. Out-of-door sleeping is advised and illustrations are given of inexpensive sleeping porches such as might be constructed on the most modest home.

Some of the teachings from the tuberculosis pamphlet which every one should be familiar are as follows:

First, tuberculosis is a communicable disease.

The germs of the disease are conveyed in the spit of the patient.

Remembering that the danger lies in the sputum them should never spit except in a receptacle which can be burned or disinfected

They should sleep out of doors or in a well ventilated room open to the sun, from which every unnecessary article has been removed. They should sleep in a separate room if possible, in a separate bed always.

The coverings should frequently be washed and boiled.

If men, they will keep close shaven, at least about the mouth.

They will avoid kissing.

They should avoid all advertised consumption cures or cough cures as they would rank poison. Food may be infected by those handling it who have tuberculosis.

The Pennsylvania State Department of Health has one hundred and nineteen dispensaries throughout the State where sufferers from tuberculosis are treated absolutely free. There is no charge for examination.

#### The Camp Fire Girls.

Girls who sleep in rooms with the windows open will acquire merit marks under the regulations of the Camp Fire Girls, an organization akin to the Boy Scouts, which will be incorporated in the District of Columbia within a short time.

The manual for the Camp Fire Girls will be off the press shortly, and among the regulations will be a schedule of merit marks given for the proper performance of household duties and the careful observance of hygienic rules, among them being an injunction to sleep in well-aired rooms. Girls between the ages of ten and twenty will be eligible for membership.

The regulations will provide for as much outdoor exercise as local conditions will permit. The organization will be national in scope, and the regulations, on this account, will be made flexible, so as to meet different conditions in different cities. Provision is made for long hikes, under the direction of young women, these trips corresponding to the Boy Scouts' long trips about the country.

Dr. Luther Halsey Gulick, head of the department of child hygiene of the Russell Sage Foundation, is back of the organization. It is supposed that Mrs. Gulick will be the first national president of the Camp Fire Girls. Headquarters will be in New York.

#### The New Jersey Horse Meat Cases.

The recent tenth postponement of one of the New Jersey "horse meat" cases suggests a summary of what has been done, and left undone, in these remarkable proceedings.

Early last summer, reports reached Dr. Wiley, then chief, United States Bureau of Chemistry, that the firm of Schwarz Bros., at Kearny, were engaged in a traffic forbidden by the national pure food law.

The government regarded the matter of so much importance that it placed fifteen of the total number of thirty-nine pure food inspectors on the case and kept them on it for many weeks at a cost of not far from twenty thousand dollars.

After detective work that was nothing less than marvelous in its cleverness and devotion to duty, the government inspectors reported to Washington that they had been completely successful in fixing on the Schwarz firm intent to make an interstate shipment in clear violation of the Federal Food and Drug Act. Dr. Wiley approved the report. Had the shipment moved across the State line, it would have been seized by the government's order.

Then a local health officer tipped off the firm that they were watched. It soon became clear that the Schwarz Bros. had abandoned any intention they might have had of shipping the meat out of the State. Thus the Federal Government, whose jurisdiction in such cases extends only over interstate and foreign commerce in food-stuffs, was deprived of its power to act.

Immediately, Dr. Wiley offered the evidence obtained by his inspectors to the State of New Jersey.

Accepting this offer of co-operation from Washington, the Attorney-General, September 28, 1911, filed five suits against the Schwarz Bros.

One charge was that the firm had prepared for food the flesh of a cow which had died otherwise than by slaughter.

The second was for conducting a slaughter house without first obtaining a State license, in violation of the Act of April, 1910.

The third was for conducting a slaughter house in an unclean and insanitary condition, in violation of the pure food law of April, 1909.

The fourth was for having in possession with intent to sell, part of the carcass of a horse that had died otherwise than by slaughter, in violation of the act of 1907.

The fifth was for having in possession, with intent to distribute and sell for food, one barrel of pickled meat, consisting in part of filthy, decomposed and putrid horse flesh, in violation of the pure food law of May 20, 1907.

Before these suits were filed, however, the firm, through its attorney, George L. Record, had brought charges of conspiracy and of breaking and entering against certain of the detectives working for the government. The alleged conspiracy consisted in the fell design on the part of these government men to "poison" the meat pickled by the Schwarz Bros., in order to make a case against the firm in the interest of the "Beef Trust." The "breaking and entering" was alleged to have been done in furtherance of said conspiracy.

The exquisite humor of this preposterous defence appears to have been lost upon Mr. Record and his clients, though one can hardly believe that they expected it to be taken seriously. At any rate, the grand jury turned the tables by indicting the Schwarz Bros. instead of the "conspirators."

Four or more postponements of the State's cases were obtained by Mr. Record before the first of them came to trial—the cow case. When the cow case was at length finished Judge Carrick decided against the State, principally on the ground that to have decided the other way would have been tantamount to charging some of the firm's witnesses with perjury, whereas it was more reasonable to assume that the government inspectors, in their exaggerated zeal, had been "honestly mistaken."

After this interesting but somewhat curious decision and opinion—from which, by the way, the State took no appeal—the dilatory and obstructive tactics of the Schwarz Bros.' counsel were persistently continued. Mr. Record tried to induce Dr. Wiley to withdraw his support in the remaining four cases, but was met with a decidedly pointed rebuff. Next, an attempt was made to arrange a conference between Dr. Wiley, the Attorney-General, and Mr. Record, but this failed because

Dr. Wiley and the Attorney-General refused either to confer or to temporize.

The defendants' base of operation was then changed from Washington to Trenton. Efforts were made to have the State Board of Health abandon the suits. These were in part successful. The board appointed a committee to confer with the Attorney-General and the latter advised the abandonment of one horse-meat suit; but the three really important cases yet remain, the last date fixed for the hearing being March 26.

At the present writing, the Attorney-General has referred two of the cases again to Washington, for Dr. Wiley's consideration.

Here is a very shadowy Twilight Zone indeed. The Federal Government obtains evidence which a faithless local public servant leaves it impotent to use. The State, working within a local law of somewhat different scope, is greatly handicapped from being unable to use directly the power which the Federal Government possesses but cannot exercise. A District Court judge, choosing to ignore the distinguished and well-known public services of tried federal detectives, finds it reasonable to believe them "honestly mistaken" as against witnesses of nothing like comparable standing or credibility. The Attorney-General's office is compelled, or is willing, to submit to a succession of postponements, every one of which tends to weaken its position, because the convenience or the determination of defendant's counsel so decrees. The people of New Jersey are permitted to watch the weeks drag on, the witnesses scatter, their work be barred in the State, the service of the citizens discouraged, and the legal twilight deepen into gloom, ignorant of whether they may not already have eaten and digested food products that were diseased, prepared under filthy conditions, and sold to them by fraud.

And it may be a subject for consideration what future chance there will be of detecting such practises as those charged. The Federal department will hardly help under the circumstances, and the keepers of such places will have been warned.

If such legal procedure is not the veriest travesty of so-called Jersey justice, what could be?

**Advance Notices, Alphabetical.**

*American Hospital Association*, Detroit, September 24-27, inclusive, 1912.

*American Medical Association Meeting*, Atlantic City, N.J., June 3-8, inclusive, 1912.

*American Nurses' Association*, Chicago, June 5-7, inclusive, 1912.

*American Water Works Association*, Louisville, Kentucky, June 3-8, inclusive, 1912.

*Congress of Mothers and Parent Teacher Organizations*, St. Louis, March 20th to 26th, 1912.

*National Association for the Study and Prevention of Tuberculosis, Eighth Annual Meeting*,

Washington, D.C., May 30th to 31st, 1912. The general organization and the programme will be as follows: Clinical Section, Chairman, Dr. Chas. L. Miner, Ashville; Pathological Section, Chairman, Dr. William H. Park, New York; Sociological Section, Chairman, Mr. Frederick L. Hoffman, Newark. The Chairman of the Advisory Council for the annual meeting is Dr. Charles O. Probst, of Columbus, Ohio.

*National Conference of Charities and Correction*, Cleveland, Ohio, June 12-19, 1912.

*National Education Association*, Chicago, July 6-12, inclusive, 1912.

**THE EMPIRE AND THE WORLD ABROAD****The British Medical Association and the National Insurance Act.**

A special representative meeting of the British Medical Association, which sat recently at the London Guildhall to formulate the official attitude of the medical profession as represented by the British Medical Association towards the Insurance Act, rejected the "No-service-whatsoever" policy and decided to negotiate with the Commissioners.

The official statement, setting forth the decisions arrived at, gives promise of a satisfactory settlement when the whole matter comes to be discussed at the round-table conference which has now been agreed upon.

The medical representatives have taken the sensible course of availing themselves of the machinery which the Act provides to safeguard their interests. They have decided:

That nominations shall be made to the Advisory Committee which is to assist the Commissioners in drawing up the regulations.

That provisional medical committees (which will consist solely of doctors) shall be appointed in every insurance area.

The only difficult question now outstanding is that of remuneration. The Government actuaries estimated that the cost of medical benefit would be 6s. a year for each insured person. As the Act provides for the separation of drugs from medical attendance, it has been assumed that the capitation fee available for doctors would be about 4s. 6d. The medical representatives are now asking for 8s. 6d., and if this were conceded it would involve a charge

on public funds of nearly £3,000,000 a year.

*New Programme v. The Six Points.*—It is opportune to compare the old "six cardinal points" of the medical profession with their amended programme:

*The Six Points.*—1. £2 income limit for medical benefit. 2. Free choice of doctor. 3. Administration of medical benefit by Insurance Committees and not by approved societies. 4. Method of remuneration of medical practitioners in the district of each Insurance Committee should be determined in accordance with the wishes of the majority of medical practitioners in that district. 5. Adequate rate of remuneration. 6. Medical representation on the various bodies set up to administer the Act. Medical Committees.

*The New Programme.*—1. Recognition of a £2 maximum income limit. 2. (Secured under the Act). 3. (Secured under the Act). 4. Recognition of payment per attendance in certain cases. 5. Minimum capitation fee of 8s. 6d., not including extras and medicine. 6. (Secured under the Act). 7. (Secured under the Act). The power of considering all complaints against medical men be vested in the local medical committee, with the right of appeal to a Central Medical Board to be appointed for that purpose.

With regard to the question of remuneration, the official report of this meeting of the British Medical Association states that data derived from the various classes of practice were brought forward. In the committee stage a resolution embodying a rate of 10s. a head was carried, but on report this was modified, and the motion finally adopted was as follows:

"That the policy of the Association be to claim 8s. 6d. as a minimum capitation fee, not including extras and medicine, for members of approved societies, and to claim the recognition of payment per attendance, in which case the fees must be on such a basis as shall be deemed an equivalent by the State Sickness Insurance Committee, with recognition of a £2 maximum income limit."

It will be noted that the association is "to claim" 8s. 6d. These words clearly show that 8s. 6d. is not necessarily the minimum rate which the Association would accept.

With regard to extras, a provisional list was referred for consideration to the State Sickness Insurance Committee (which was appointed by the representative body for the purpose of negotiations). It included night-calls and special visits, operations requiring local or general anaesthetics, treatment of fractures, dislocations, and other serious surgical cases.

Another resolution, "which had been the object of prolonged discussion in committee," was passed declaring that the council should inform the Insurance Commissioners "in plain and unmistakable language" that unless the minimum demands of the Association were embodied in the regulations, the doctors would decline to work under the Act.

### Cancer Investigations.

Dr. Bashford, the Director of the Imperial Cancer Research Fund, is reported as having issued a warning against attaching too much importance to the statement recently made by Dr. Gaube de Gers in Paris that he had discovered in the injection of colloidal copper a specific cure for cancer. The great success that has been claimed for salversan has naturally aroused a keen interest in the new school of pharmacology, which seeks to provide new combinations having a selective action either on organisms introduced from without or the parts of the body which are specially liable to disease. The most outstanding instance of a portion of the body going wrong is cancer, and it is to this fact that we owe the publication of Professor Wasserman's experiments. He showed that the injection of a compound of eosin and arsenic was able to cause the

disappearance of tumors in mice. The publication of Professor Wasserman's results have been followed in the last three months by Professor Klemperer, of Berlin, and by Dr. Goldman, who made use of an organic compound which, he believed, acted in co-operation with the liver. Dr. Gaube du Gers, working on somewhat different lines, now claims that a colloid copper compound has a curative action. In his case there is the claim that the disease can be cured in man, the statement being based on the experience of some thirty cases. Professor Neuberg and Professor Caspari also believe that they are able to effect a cure in animals by the injection of colloid compounds of the heavy metals, such as gold, tin, silver, copper and tin. In Moscow, too, somewhat similar claims have been published, and there, as in Paris, a committee of medical men has been appointed to investigate and report.

As regards the experiments on animals, the authors, from Professor Wasserman onwards, have been very careful in their statements, and have warned both the medical profession and the public that their results should not be applied to treatment in man, partly on the ground that they are uncertain and partly because the drugs at present available are extremely poisonous, so that they have killed a large percentage of the animals treated by their heroic methods.

Pending the report of the medical committee that is stated to be investigating the statements, it will be wisest to suspend all judgment and even to be sceptical of the results. For, unfortunately, the working hypotheses underlying each of these claims which have been made are not only different but contradictory. When such a state of affairs arises in connection with scientific investigation, all those with special knowledge and experience will withhold their judgment until they have been able to put the matter to a practical test.

### School Hygiene Work in Glasgow.

Dr. Ernest T. Roberts, Chief Medical Officer under Glasgow School Board, has issued his second annual report. It covers the year ending June 30, 1911.

The interesting character of this report demands a careful notice:

The scheme of medical inspection under review included the re-examination of "abnormal" cases; the routine inspection of all children not hitherto medically examined in the Infant Departments and the lower two-thirds of the Junior Departments, and the examination of non-routine cases selected (from those classes which were not included in the routine medical inspection) on account of some disease or defect noticed by the teachers or school medical officers. To accomplish this work the Board had the services of two permanent assistant medical officers and fifteen part-time medical officers in addition to the staff of nurses. The latter continue to visit all children reported by the school doctors as underfed or ill clad; they also co-operate with the Attendance Department by visiting cases of this kind, and they examine girls alleged to be in a verminous condition. For the examination of boys of the latter class four attendance officers have been specially detailed; they are authorized by the Chief Medical Officer to examine the persons and clothing of boys, in terms of Section 122 of the Children Act, 1908. The total number of children examined, exclusive of the re-examination of "abnormals," is estimated at 23,000.

*Notifications to Parents:* It was found possible to carry out the scheme prescribed by the Board in most of the public and in all the voluntary schools. 6,225 notifications of diseases or defects were made to parents. When a re-examination of the children was made it was found that 33.1 per cent. were cured and 18.3 per cent. improved; the remainder were still under observation at June, 1911. The cases cured during the year include a large number of children who have been treated by operation for adenoid growths and enlarged tonsils. Dr. Roberts points out that these two conditions are often associated, but the adenoids usually produce the more serious consequences, amongst which may be mentioned mouth breathing, deformity of the chest, deafness, discharging ears, mental backwardness and dullness, and various nervous conditions, such as night-terrors and disturbed sleep. It is therefore obvious, as the doctor remarks, that where those conditions are present the cause of them should be removed as early as possible during school life.

*Skin Disease:* An inquiry was made on two occasions as to the number of children from school on account of infectious skin disease. This was done to assist in deciding as to the advisability of opening a school for cases of ringworm and favus. The average length of absence from school was also ascertained at the same time, and was found to be considerably less than is usually stated. For this reason, and also on account of the difficulty of finding a suitable building for the purpose, it was decided to postpone the formation of a ringworm school. All children suffering from ringworm, favus, scabies, and also serious cases of impetigo, are excluded from school until cured. It has not been found practicable to exclude all children found to be in a verminous condition, but very bad cases are excluded, whether it is the head or body that is affected, and all such are reported to the sanitary authorities, in order that the condition of the home may be investigated. In the previous report the cleanliness of the children was fully discussed by Dr. Roberts, and the danger to health arising from the presence of lice on the hair or clothes was emphasized. A definite improvement has been effected in this respect.

The statistics make manifest how large a percentage of children suffer from decayed teeth. Whenever the teeth are definitely producing unhealthy conditions of the mouth or throat the parents are urged to obtain treatment, which usually means the extraction of the offending teeth.

*Defective Children:* In two lectures delivered by Dr. Roberts, to which reference is made in the report, advantage was taken of the occasion to emphasize the necessity for personal cleanliness and the importance to parents and children of walking in what the late Sir Andrew Clark aptly described as "the paths of physiological righteousness." The children attending the "Cripple Schools" spend about 6 hours out of the 24 at school; three-quarters of their lives on five days of the week; and all of the remaining two days, and the whole of the holidays, are therefore lived elsewhere. This explains how easily the good done at school may be largely counteracted out of school hours, and, therefore, the Doctor remarks, it is essential that all who are interested in the welfare of the

children should take every opportunity of influencing the parents to obtain and aim at, for themselves and their children, a higher standard of healthy living than has been reached hitherto. An opportunity was also afforded of mentioning the necessity for the formation of after-care committees, who would keep under observation the mentally and physically defective children, and give advice in regard to employment suited to their individual capacities. Dr. Roberts says that some supervision of the mentally defective child who has left school is urgently required, as such children tend to drift into immoral or even criminal courses, and eventually to become a burden upon the community as paupers or inmates of our lunatic asylums and jails.

The Report then considers other points of importance in school hygiene work under such headings as New Schools, Open Air Schools, Prevention of Rickets, Eye-sight Inspection, Deaf and Dumb. In the concluding section, which relates to the classes for semi-deaf and semi-mute children at Dovehill Public School, Dr. Love reports that the work of this school continues to show the great advantage which some remaining hearing or some recollected speech confers on deaf children during the school period. At the end of the school year 44 children were attending these classes. The School Board have lately appointed a teacher to visit the homes of young deaf children between the ages of three and five years, with a view to the setting up of some understanding between these children and their mothers, who should be their first teachers, in order that, when the children enter school, better progress may be made, especially in speech and lip-reading.

#### Advance Notices, Alphabetical.

*Congress of the Universities of the Empire*, London, England, July 2nd, 3rd, 4th and 5th, 1912. Fifty-one universities have arranged to send representatives; and among the questions proposed to be discussed by them are the following: University Organization; Universities in Their Relation to Teachers and Undergraduate Students; Universities in Their Relation to Post-graduate Research Work; Universities in Their

Relation to Schools and to Agencies for Higher Education. Other subjects for discussion will probably be: Whether any Common Understanding Will Be Possible Among the Universities of the Empire as to the Extent to Which They Could Recognize Each Others' Entrance Examinations; The Desirability of Increased Facilities for Post-Graduate Study; The Possibility of Some Plan of Interchange of Professors; What Could be Done by Universities in Regard to After Careers of Students, and the whole question of the Financial Support Given from Public Sources to Universities. Inquiries with regard to the Congress should be addressed to Dr. R. D. Roberts, at the Congress Office, University of London, South Kensington, London, England.

*Imperial Conference of Teachers' Association*, London, England, July 12-16, 1912.

*Royal Institute of Public Health*.—The Council of the Royal Institute of Public Health have accepted an invitation from the Chief Burgomaster of Berlin to hold their 1912 Congress in that city, from Thursday, July 25th, to Sunday, July 28th, inclusive. A Local General Arrangements Committee has been formed, consisting of representatives of the Royal Ministry of the Interior, the Imperial Board of Health, the City of Berlin, the medical officers of the Headquarters Staffs of the Army and Navy, the University of Berlin, the medical and hygienic societies of Berlin, and other societies, to promote the success of the meeting. The Congress will be under the presidency of Lord Beauchamp, his Majesty's First Commissioner of Works, and will be conducted in the following sections: State Medicine, President, Sir T. Clifford Allbutt, Regius Professor of Medicine in the University of Cambridge; Bacteriology and Comparative Pathology, President, Professor G. Sims Woodhead, Professor of Pathology in the University of Cambridge; Child Study and School Hygiene, President, Sir James Crichton-Browne, Lord Chancellor's Visitor in Lunacy; Military, Colonial and Naval, President, Major Sir Donald Ross, Professor of Tropical Medicine in the University of Liverpool; Municipal Engineering, Architecture and Town Planning, President, Mr P. C. Cowan, Chief Engineer of the Local Government Board, Ireland. Facilities will be afforded for visits to be made to the various public health and educational institutions in Berlin and other places.

*Royal Sanitary Institute, Congress and Exhibition*, York, England, July 29th to August 3rd, 1912. President, Most Rev. His Grace the Lord Archbishop of York; E. White Wallis, Secretary, 90 Buckingham Palace Rd., London, England.

*The Royal Sanitary Institute, Henry Saxon Snell Prize*.—This prize, consisting of 50 guineas and the silver medal of the Royal Sanitary Institute is offered, 1912, for an essay on "Suggestions for Improvements in the Ventilating, Lighting, Heating and Water Supply Appliances for an Operating Room and Its Accessory Rooms of 400 Beds" (No Students). For conditions of the competition application should be made to the Secretary of the Secretary of the Royal Sanitary Institute, 90 Buckingham Road, London, S.W., England.