

# THE SANITARY REVIEW

## THE DOMINION PUBLIC HEALTH CONFERENCE.

In our issue of last week we noted upon the work which Dr. Hodgetts is doing in connection with the Committee of Public Health of the Commission of Conservation.

We are now enabled to reproduce in part the important address which Dr. Hodgetts laid before the Conference of provincial and Dominion health representatives.

The Doctor makes out a clear case for the necessity of Dominion legislation in connection with the maintenance of pure water supply. It is now generally recognized that the typhoid rate is an index of the purity or impurity of water supply. The typhoid mortality rates of Canada and the United States as compared with the rates in older countries speak for themselves. Scotland has the lowest typhoid death rate out of nine countries quoted, the rate per 100,000 being as low as 6.2, while Canada has a rate of 35.5 and the States 46.0. The average typhoid death rate for the countries of Scotland, Germany, England and Wales, Belgium, Austria, Hungary and Italy is 18.0, or about half the typhoid death rate of Canada.

There must be some absolute distinctive reason for this condition of things, as we know that typhoid is a preventable disease, which is proportionate to the amount of sanitary neglect in a country.

The typhoid death rates for most of the principal cities and towns of Canada are scheduled during the decade 1900-1909, and we regret to say that, apart from years of specific epidemic, there has been no general lowering of the death rate. The table for the year 1909 shows, out of 24 cities and towns, four with rates above 60, two above 50, four above 30, five above 20, and nine below 20. When we consider the now acknowledged fact that all typhoid rates which exceed 20 point to polluted water supply, we must most certainly conclude with Dr. Hodgetts that the time is ripe for an organized campaign in favor of more stringent regulations guarding the purity of our water sources.

The statistics which the Doctor gives deal only with the larger centres of population; but we are very much afraid that, if we had the statistics relating to the smaller villages and communities, which rely upon shallow, polluted well waters, matters would assume an even more serious aspect.

The facts are now before us. There is no excuse for non-action. A continuation of the present conditions means simply a **sacrifice of Canadian life which can effectually be prevented.**

## PURE WATER AND THE POLLUTION OF WATERWAYS.\*

In a discussion of the subjects of pure water supplies, the pollution of waterways and the disposal of sewage, it is found as difficult to consider them separately as it is to expect to find pure water when man wantonly pollutes it with his own excreta, and will neither provide the means for removing that pollution by some adequate method of filtra-

tion of sterilization, nor minimize it by adopting any method of sewage treatment. He transgresses all the laws of Nature, and hopes the God of Nature will help him out in some miraculous manner and furnish him with pure water. These subjects will, therefore, be dealt with in a general or collective manner, domestic water supplies and public water supplies from subterranean sources being eliminated.

The inhabitants of a village or small town depend primarily upon wells as their sources of domestic water supply, but with the growth of these municipalities the population becomes gradually more dense, and pollution of the wells results. Fire insurance companies also demand better protection service, and so a time is reached when a public water supply must be installed; and this latter development is in many instances the important and deciding factor. It is then the authorities get busy; it is then that old-time ideas and prejudices have to be broken down and overcome, for many householders will cling tenaciously to the "old oaken bucket" as a source of domestic supply, even for years after the installation of the purest public water supply possible. Not even the temptations of the modern bathroom will lure them from the wells, although Augean stables and privy pits innumerable pollute the crystalline contents of the uncleaned depths, and the daily quota of domestic slops from surrounding houses are offered up on the earth around as a libation to the goddess of ignorance, and incidentally to the death and destruction of members of their own households.

In looking for and in deciding upon the source of any particular public water supply, the authorities concerned naturally seek for quantity sufficient to supply the demand for domestic and manufacturing purposes and fire protection, and for quality to satisfy the critical public with a bright, clear, palatable water, having in view that the former must be sufficient at all seasons of the year, not only for present needs, but for the ever-increasing demands consequent upon growth in population. The quality must be as nearly uniform as possible at all seasons, of reasonable hardness, and yet not too hard to permit of the use of the water for manufacturing purposes, and of color and taste to please the palate and satisfy the eye of the critical public, who have to be reckoned with as the prospective consumers. These considerations, coupled with those of method of operation, financial questions, and others not of a sanitary character, have all to be considered.

The natural sources of supply generally in Canada must be the rivers and lakes. They may be divided into two classes for purposes of description and consideration, viz., the non-navigable and the navigable:—

**Non-Navigable Waters.**—First, Non-Navigable Waters.—These include the many small lakes and streams upon which vessels do not ply, and which, either directly or indirectly, are tributary to the larger bodies of water. Where they flow through an agricultural district, they are subject to pollution from the cultivated fields where manure is used as a fertilizer, and by the drainage from barnyards and the cattle themselves. It is into these bodies of water we frequently find that factories discharge their waste and sewage in an untreated state, and often into them the raw sewage of inland municipalities is poured regardless of consequences. Fortunately, these bodies of water are rarely selected as the source of a public water supply, and the discharge of a relatively small amount of sewage into them brings about no serious conditions. But with the gradual increase in the amount discharged consequent upon the increase of population and the extension of sewers, the waters become discolored, the bed of the stream or lake

\*Extracts from an address read before the Dominion Public Health Conference, Ottawa, October 12th, 1910, by Dr. Hodgetts.