

it on a sewage farm, to be purified either by irrigation or filtration, or shall we pour it into a lake or river with or without previous artificial purification? Here we find several different systems for a municipality to select from, and ample provision made for a goodly amount of theorizing and experimental work by the hygienist. Yet from this theoretical and experimental work, as well as the expenditure of money by municipalities, opinion grows and develops until it leaves the boggy ground of uncertainty, and stands at last on the firm ground of truth. One point is now made clear: the water supplies must not be defiled with sewage or any other contamination. In the case of Toronto, biological examination of Lake Ontario water shows, that water, tainted with sewage, with a very slight diminution of the bacteria, can be found in close proximity to the intake, and that this sewage-tainted water flows eastward or westward from Toronto bay according to the direction of the wind. Mere dilution of crude sewage will therefore prove an insufficient guarantee of the purity of Toronto's water supply.

Whether filtration of the city sewage through sand, or its purification by chemical precipitation, previous to its discharge into the lake, be adopted, the important conclusion arrived at is, that crude sewage must no longer be poured into the source of our water supplies. The financial and engineering aspects of these rival methods remain to be considered, but in as much as, from a sanitary standpoint, excellent results can be accomplished by either one, we may rest assured that the better and cheaper plan will ultimately be selected.

As contributions to this branch of sanitary science, papers were read by Dr. Cassidy, Chairman of the Provincial Board of Health, Toronto, who strongly advocated the introduction of intercepting sewers, and the employment at the outfall of the "Amines" process of sewage purification; E. H. Ball, Esq., C.E., Chief Sanitary Engineer, Medical Health Department, Toronto, whose paper dealt with different methods of sewage filtration, and Dr. Oliver, Niagara Falls, who spoke of the pollution of the Niagara river, in relation to public water supplies.

The paper read by Dr. Bryce, Secretary of the Provincial Board of Health, on "Vital Statistics in their relation to Public Health Work," was made especially valuable by the object lessons exhibited,

which showed the heights attained by typhoid fever in several American and Canadian towns notorious for polluted water supplies. Dr. Bryce urged the extension of the collection of vital statistics to a monthly return by every municipality, both of deaths and contagious diseases, and also that a uniform system be developed for the Dominion.

An extremely interesting paper was read by A. McGill, Esq., Analyst of the Internal Revenue Department, Ottawa, on "Ventilation, its Meaning and Importance." Not the least important portion of his address was his demonstration of a simple means of ascertaining quantitatively the proportion of carbon dioxide in a given sample of air.

In discussing Isolation Hospitals, their Uses and Abuses," the Medical Health Officer of Toronto gave a very full account of the work done in Toronto in coping with diphtheria, the establishment of an isolation hospital, the use of super-heated steam in vacuo in disinfecting clothing, bedding, etc., and the close connection existing between overcrowding and the rapid development of the diphtheria germ.

Dr. Vanderburg (consulting chemist of Buffalo), discussed in an address, among other matters, the pollution of the Niagara river, and expressed the opinion that it was impregnated with Buffalo sewage.

Papers were also read by Dr. Hall, M.O.H., Chatham, on "Some points relating to the Artesian Water Supply of Chatham"; by Dr. Griffin, M.O.H., Brantford, on "Methods of Sanitary Work in Brantford"; by Dr. Herald, M.O.H., Kingston, on "The Causation and Prevention of Typhoid Fever and the duties of municipalities in relation thereto"; by Alan Macdougall, C.E., Toronto, on "A Sporadic Outbreak of Diphtheria"; and by Dr. Cameron, M.O.H., Owen Sound, on "Organic Matter in its relation to Asiatic Cholera, Cholera Nostras, and other diseases."

The last, but by no means the least interesting paper of the series, was by J. J. Mackenzie, M.A., Laboratory of the Provincial Board of Health. It was entitled "The Factors Necessary to a Practical Diagnosis of Tuberculosis in Cattle."

Dealing first with the clinical symptoms observable in dairy cattle at the outbreak of the disease, viz., emaciation, staring coat, cough, and glazed condition of the eyes, he showed the ad-