

TYPHOID IS SPREADING.

Seventy Cases Reported in First Twelve Days of March.

(The Toronto Daily Papers.)

Seventy cases of typhoid fever were reported to the Toronto Medical Health Officer in the first twelve days of March. There were twenty-two cases in the whole of March last year.

The colonies of bacteria in the water drawn from the tap in the City Hall on March 7th had increased to 5,540 per cubic centimetre, and there was coli communi in the water on that date.

The city of Toronto is installing a "slow sand filtration" plant, in order to purify Lake Ontario water before it is delivered to the consumer.

The first cost of installation approximates \$700,000.

The annual cost of operating expenses will approximate \$20,000. This being the cost for operating such plants on the American continent.

The operating expenses capitalized at 5 per cent., added to the cost of installation, makes a total cost to the city of \$1,100,000.

Is Toronto justified in investing this sum in an enterprise for purifying Lake Ontario water?

The Toronto newspapers, especially the "Telegram" and the "Globe," have raised this issue: "Is it essential to filter Lake Ontario water?"

Criticism has engendered an element of doubt in the public mind. Citizens are concluding that the decision to filter has been arrived at without considering the alternative: "Is it possible to obtain water which does not require to be filtered?"

What is the alternative suggested by the press? Simply: "Carry out the intake pipe further into the lake."

It is suggested that a point can be found where wave action and currents cease to trouble, and where sewage entereth not.

Is the suggestion feasible, and, therefore, an alternative to filtration?

Let us consider this question for surely it must be worth considering, as no idiot is going to filter Toronto's water supply if such can be avoided. On the other hand, it looks like trying a man after he is hung, for inasmuch as "filtration" has been accepted, Lake Ontario as a possible source of raw pure water has been condemned.

What are the alleged iniquities connected with Toronto's water supply which have caused its condemnation?

They would appear to be :---

(a) Turbidity.

(b) Sewage pollution.

(a) "Turbidity" in the water shows itself as "muddiness." When the winds from the east wax strong the

TORONTO'S PURE WATER SUPPLY PROBLEM. waves get angry and irritate the bottom of the lake. When the lake is calm and quiescent, all "mud," "sand," silt and other stuff heavier than water rest peacefully at the bottom; otherwise, we get water in the form of a grit mixture. The shallower the water, the stronger the mixture.

This mixture will not produce typhoid unless the typhoid germ is in it.

If the grit is composed of fine sand particles of a quartz nature, and we get a sufficiency, it will irritate the intestines, causing enteric conditions, and will predispose a person to typhoid infection. Fine, ground glass has been used as a poison, as it causes lesions in the intestinal linings.

We would, therefore, rather have water without grit particles.

(b) "Sewage pollution" constitutes the chief iniquity. Sewage is proven to be in Toronto's water supply (at times) by the presence of a particular organism (B. coli) of an intestinal origin. Also, the water shows at times a greater number of bacteria than are known as the normal quantity in pure Ontario Lake water.

The normal number of bacteria varies considerably in different acknowledged pure waters. A pure water supply may give 50 to 500 per c.c.

Ontario Lake water in the vicinity of Toronto, when uncontaminated by the waste discharges from the city and neighborhood, is very pure, producing normal counts of from 8 to 10 bacteria per c.c.

Note.-This data is based upon over one hundred samples of water taken by the Provincial Board of Health at points anywhere from 500 feet to five miles south of Toronto Island.

The trouble is: It is possible to obtain this pure water one day, and impossible the next.

Winds and currents may at any time bring this pure Ontario Lake water within the zone of Toronto's contaminating influences.

Lake Ontario water, when uncontaminated by Toronto's waste products is an absolutely ideal pure drinking water.

Samples taken recently show :---

(a) At the intake pipe 1,200 bacteria per c.c.