

The WITNESS.—I brought that report because it deals with work done while I was in Toronto and that work has been further elaborated since I left there.

Now I would like to make a short reference to pollution in rivers. Sarnia is an example that while you have the current running past the town in a South-westerly direction, yet there is a back eddy which will even carry a vessel up and land it if the vessel is floating above the water intake. There was a vessel wrecked some years ago and it was carried up on that back eddy. In the case of the St. Lawrence I have seen sewage deposited below the water intake of a municipality carried by the back current up along the shore, and there was a possibility of that sewage even contaminating the municipality's own water supply. This is a common experience.

*By the Chairman:*

Q. It is not possible, by reason of the depositing of sewage in our rivers, to take water from them and be absolutely safe?—A. Not at all. We do not know when sewage pollution takes place, and before that takes place, you may get the gross infection carried into your water supply, and particularly along the St. Lawrence. It may be carried down from one town to another because the river flows so rapidly, and many municipalities are taking their water supply from the St. Lawrence.

Q. Do you agree with the evidence given by Mr. Kennedy the other day when he practically stated that the dilution made the water fairly safe to municipalities at a distance of twenty or thirty miles below Montreal?—A. As a sanitarian I cannot accept that. That is endorsing the theory of nature doing the work of treating sewage. We have sufficient examples in Canada, and all over this Continent, clearly showing that while it may be right in theory and practice in some instances, in the majority of cases it is not safe to rely upon it. I think it is manifestly unfair to throw upon nature or Providence, what we should do ourselves. Every individual householder has to care for the sewage of his household, whether it is dry sewage or whether it is wet sewage, but particularly the former. I think the Body Corporate should do what the law requires of the individual in every Province in Canada—treat its waste.

*By Mr. Steele:*

Q. There is always an uncertainty connected with that anyway. While at a distance of twenty miles down the water might be perfectly safe for 364 days out of the year, on the 365th day, owing to some new conditions arising, the water there might become contaminated.—A. Yes, and as sanitarians we take no chances. Take the Ottawa River where the city deposits its sewage down towards Rockcliffe. Now Rockland and other places are situated along the shore farther down and in years gone by, when I was Health Officer of Ontario, I was quite satisfied that the typhoid cases at those places were due to the discharge of sewage by the city of Ottawa into the river. It was then a large amount of sewage and it is increasing. In the case of dilution by large bodies of water, in order to have proper treatment, you must consider the falls and cascades and the breaking up of that sewage so that you may get the requisite amount of oxygen in the water, and the other conditions essential for successful treatment. You must have the natural conditions where the sewage can be broken and the water must flow at a certain rate so as to permit of that. Consider the Niagara River where you have Buffalo, Tonawanda and Niagara Falls all pouring their sewage into it, and you have even Niagara Falls on the American side dumping its garbage into the river; they do not destroy the garbage, they simply dump it in. We know that in years gone by the people who drank that river water certainly had intestinal troubles and there were some cases of typhoid. The sewage is not treated, it is simply mixed up.