

out into Lake Ontario and so affecting the water supply. The diagrams I have here (pointing to diagrams) indicate how, for instance the sewage was carried out through the eastern gap and then up along the front of the Island.

Q. How far would that sewage be carried out?—A. It is five miles in a westerly direction from the eastern gap to this point (indicating). You will observe that the action of the sewage under the influence of the wind is like the opening of a fan. You will notice that at this point west of the eastern gap (indicating) the sewage is carried out over the lakes. These experiments were carried on for about three months, the officers engaged going out regularly and taking samples. I went out sometimes myself, but Doctor Amyot was in charge of the whole of the work. Here (exhibiting sheet) you have a very interesting diagram showing the bacterial contents of the water at a distance of three miles south.

Q. How far is that from the city?—A. That was three miles south of the Island just out of the eastern gap, on the route taken by the boats going to and coming from Niagara. Sample 13 shows the colon present in the water at a distance of three miles south.

Q. Is that surface water?—A. We found that the bulk of the sewage itself is lighter and also warmer than the water of the Lake. It rises to the surface and just floats in a well defined direction like the course of a river. You could go along in a tug and could tell when your tug was running in sewage and when it was in the clear Lake water. The distinction was quite marked even as far down as off Scarborough Heights.

Q. How far can you trace the sewage in the Lake?—A. It is some years since I left Toronto but I believe pollution has been found at a distance of fifteen miles out on the Lake from the city, that is the colon bacillus. I am giving you this information for the purpose of showing the various methods that have been followed out.

Q. In the light of your investigations, and with the experience that you have acquired, how far would sewage be carried from the point of deposit in the water at Toronto?—A. We have traced it by bacteria examination and found the colon bacillus, which is the indicator, fifteen miles out in the Lake.

Q. I have read somewhere that investigators have traced sewage fifteen miles out, in the body of the Lake, and that they ran right into it in a tug.—A. No, not that it was visible to the eye. It would depend upon the volume of sewage that was coming out from a trunk sewer, and also as to how the wind would carry it. I found that the wind at Toronto would sometimes carry the sewage out of the eastern gap and a larger proportion, sometimes, out the western gap. It is quite evident that that sewage may be carried a great distance. As a matter of fact, outside Toronto Island I have seen human faeces floating in the water, as we have been passing along in a tug; you could take a net and scoop it up. This may be seen for a considerable distance. There is the danger not only that this may be drawn in through the intake pipe of Toronto's water supply, but that vessels as they pass along may take it up in buckets. There is no definite information as to how far the pollution may be carried, but undoubtedly it has carried a great distance. With the naked eye I have seen the pollution in the water five miles out, and the colon bacilli were present.

Q. According to this evidence, the water taken by Toronto from its present source must be endangered?—A. Yes, it is contaminated and may be specifically infected with typhoid at any time.

Q. How far is the intake pipe from the city?—A. It is only a comparatively short distance from the Island. There is the intake pipe (indicating) a short distance away.

*By Mr. Steele:*

Q. What is the date of the report you are dealing with?—A. 1908.

The CHAIRMAN.—It is the report of Provincial Board of Health of Ontario.  
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Dr. CHARLES A. HODGETTS.