

must be studied with reference to such matters. In your shore a similar indentation is formed by Humber Bay, and you are right in advocating a sewage outlet to the east, where the coast line is straight for a considerable distance."

But, however satisfying this theory may be to the scientist, it should be put to the severest test before the least reliance is placed in it. And I hope the city authorities will not allow the present season to go by without ascertaining to the fullest possible extent the direction and velocity of the lake currents, both deep and superficial, under all existing circumstances.

The result of the recent analysis of water from the bell buoy by Professor Ellis, might be considered a staggering blow to the credulity of those who had faith in the purity of the water from that source when not contaminated with impurities from the bay through leakage into the conduit, but not necessarily so. The rather does it show the danger from western sewage outlets, and from the polluted waters of the bay. It was very ably shown by, I think, a writer in the *Mail*, that the wind rising in a certain quarter, and veering around to a different quarter, would tend to bring the foul waters of the bay directly to the intake pipe. This mechanical cause may have been aided by a physical cause, namely, the difference in temperature and consequently a difference in density. Thus at the time the sample was taken the weather was tolerably cold, the ice had just left the bay. The water in the shallow portions inside the harbor is much more susceptible to changes of temperature than in the deep water just outside the island. Suppose the temperature of the water in the bay to be 39° Fah., its limit of greatest density, and that outside to be 40°. Then as the water would be driven out of the western gap as before described and around Light-house Point, it would encounter the lighter waters of the lake and sink beneath them, carrying down its load of sewage pollution to the bottom to contaminate the water at the intake. But this state of things is not irremediable. Cleanse the harbor, cut off the westerly sewage outlets, and extend the intake pipe out to 70 feet of water and all danger will vanish; for it must be remembered that conditions may arise that would contaminate the surface water at the location of the intake pipe which would be perfectly harmless at a depth of 70 feet below.

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