

CANADA HEALTH JOURNAL.

A Monthly Record of Sanitary Progress.

VOL. XIII.

APRIL, 1891.

No. 4

ON WATER SUPPLY, WITH SPECIAL REFERENCE TO THAT OF TORONTO.

IN his last report on the Toronto water supply, dated April 2nd, inst., Dr. Ellis concludes in these words: "Fortunately the volume of leakage is so small that, as is seen from the above analysis, the purity of the supply is practically not affected." Now this is a point upon which we are sorry to differ with the able analyst. While it is true that the small amount of leakage of the foul bay water into the main supply from the lake does not render the great bulk of the latter *chemically* too impure to pass as barely coming within the limits of a first class water, we contend that *biologically* such water is highly dangerous. Numerous experiments by eminent, well known scientists in Europe, with which Dr. Ellis is doubtless familiar, clearly show that specific, zymotic diseases may be communicated to the human organism by water which appears to be, chemically, of the best quality. We have no doubt whatever that by the leakage of the bay water into the main supply the latter is "practically" and most dangerously affected. No one familiar with the nature of pathogenic micro organisms—the infections of specific diseases—will doubt that the water of the bay frequently if not constantly contains such organisms, from infected sewage. And while the chemical or soluble impurities in this water would be quickly diluted by and almost lost in the large quantity of lake water into which it had leaked, the living organisms, whether of animal or vegetable growth, while they would be dispersed or scattered, would not be diluted, nor would their vitality and infective powers be destroyed. The spores of the anthrax bacilli for example have been known to live in

distilled water for more than three months. As was said by an eminent practical Sanitarian, Dr. Vivian Poore, F.R.C.P. (Phys. to University Col. Hospital, and Prof. in Univ. Col. London), in an address at the last Anniversary meeting of the Sanitary Institute of Great Britain: No amount of dilution is capable of destroying a zymotic poison. In fact it is not impossible that the mere dilution of organic matter which contains the poison with water may be the means of keeping it alive and causing it to multiply.

Toronto has afforded abundant and very costly corroborative or confirmatory evidence that the water supply there is highly dangerous. From the first outbreak of the typhoid epidemic in Toronto we have contended that it was due to infected water. Ottawa had a similar experience a few years ago. Such experiences will doubtless multiply. So long as the people will continue to befoul the streams and lakes with sewage, on the one hand, and on the other, to take their water supply from the same streams and lakes, so long will typhoid and kindred infectious diseases continue to increase and destroy the lives of men and women who are much needed to help to increase the population of the Dominion. The public much need educating in all such sanitary questions. And one of the first lessons which it would be well for all to bear in mind is that, although water may appear pure and taste "sweet," and prove on chemical analysis to be what chemists call a first-class water, it may possibly contain germs of malignant disease. The source of the water and its *biological* condition should always be taken into consideration.