

sufficient to render highly necessary a purification of the water before being used for drinking purposes.

The absence of organic matter as derived from sewage may or may not be attributable to the fact that for several days previous to the 22nd of December, the day upon which the samples were taken, the temperature was considerably below the freezing point, and consequently the water of the Rochester Creek had ceased to flow. If previously the city water was polluted from sewage matter brought down by this creek the larger volume of water, together with the swift current of the river would easily account for the absence of such contamination at this date.

We shall now apply the standards of purity proposed by Drs. Muter and Wigner, celebrated English analysts, in order to ascertain the relative degrees of purity of the Ottawa water

Dr. Muter's scheme takes into consideration and assigns values to the amounts of free ammonia, albuminoid ammonia, and the oxygen absorbed in 15 minutes and four hours. He proposes that the following limits, "supposing no other consideration intervenes to modify the analyst's opinion of the sample," should be observed :

First-class water.....	up to 25 degrees
Second-class water.....	up to 40 do
Undrinkable water.....	over 40 do
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By this classification the Ottawa water would rank as undrinkable, its value being 1.61.

Mr. Wigner's scale includes a value for each of the determinations enumerated in the table of results. The limits by this scheme are as follows :

Extremely pure water.....	15
First-class water	40
Second-class water.....	65
Third-class water beyond.....	65
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The Ottawa water, according to this scale, gives a valuation of 134.5, being entirely condemned for drinking purposes.

We must, however, remember that these standards were proposed for English waters, the sources of which are altogether different from many of our Canadian waters, and therefore great care should be used in interpreting the results of an analysis by these standards. But even considering the source of the Ottawa supply we must look upon it with grave suspicion and strongly deprecate its use as a potable water without previous purification.

It may not be uninteresting to compare this water with that supplied to Toronto. Dr. W. Hodgson Ellis, Professor of Applied Chemistry and Public Analyst, Toronto, has for some time past made thorough analyses of the Toronto water, and in an exhaustive report to the Toronto City Council last June proposes for the comparison of waters a scale to illustrate the "average degree of impurity." Applying this scale to the results of his analyses, Dr. Ellis tabulates as follows :

	Average degree of organic impurity.
Bell buoy (Lake Ontario).....	22
Pumping well.....	22
Reservoir.....	21
Hydrant.....	22
Eastern gap (Toronto Bay).....	39
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By this scale the Ottawa water would equal 188.