

made it, I think, clear—that in a populated country it is wholly impossible to keep our streams, big or little, in a condition fit for domestic uses—quite impossible—as a matter of actual practical usage. We might make incorporated towns and cities do something, but there would be the hamlets, and the factories, and the isolated places and the sewage on farms, and other things, which would pollute any stream running through a populated country. There is no possibility of getting pure water for drinking purposes if we consider the question in that light. Your Committee, I understand, is dealing with navigable waters.

Q. Or with their tributaries.—A. One would suppose that suggested some reference to navigation. Now, navigation is another affair. The questions put to Mr. Lee suggested that what was in the minds of the Committee was the hygienic condition of the health of our people.

Mr. MURPHY: Might I interfere in order to suggest that Mr. Kennedy would be justified, would he not, in treating the question as if this Committee was not limited in that way at all.

The CHAIRMAN: Yes, we want Mr. Kennedy to discuss the question from its broadest standpoint.

The WITNESS: It ought to be, that is the fundamental question. Now, if that be the fundamental question as to what is the problem of obtaining wholesome water for domestic purposes, for all the purposes of a city, then, as Mr. Lee has put it, filtration is the prime thing. We cannot but admit that as a fundamental condition. We cannot get our streams, big or little, in a condition to be entirely wholesome as they stand with raw water, as it is called, and filtration is almost without exception a necessity to obtain thoroughly pure water.

Q. We are now drawing our water supply in many cases from rivers.—A. From rivers which drain the populated country. As an illustration, you are no doubt aware that Ottawa has been recommended to go up to the sources of the Gatineau for its water supply—that means the whole inhabited country there—and to buy up the whole place so that there shall be no inhabitant or no domestic animal belonging to any man in that section, that the water shall be wholly and entirely pure. To secure that result means that it must be an unpopulated place. This is impracticable in parts of the country where we have farms, population, and other conditions of settlement, so let us understand at once, then, that with such conditions we cannot keep the streams in a thoroughly wholesome condition for drinking purposes.

Then what would you do about it? It certainly is cheaper, more effective, and safer in every way to filter the water we are going to use, except in the case of big cities on small streams, and we have hardly a case of that kind in Canada with the exception of Winnipeg and perhaps a few other exceptional places. There are a few of our rivers that are fit to drink without filtration. Montreal is taking its water now from the purest part of the St. Lawrence within reach, but considers it necessary to filter it as observations show that the water is not what it ought to be. If that is the case with regard to the St. Lawrence, it applies to all other rivers into which a large city discharges its sewage, and especially in regard to the lakes, because, up and down the margin of a lake both above and below, there is practically no current, and the whole margin of the lake in the neighbourhood is so polluted that it has to be filtered, as is being done now in Toronto; but on the Ottawa River and other places the dilution is so great that the river is not affected for all practical purposes. It is not hurt in any way, for ordinary use, but it is unfit for drinking purposes without filtration. The purification of water by purifying the sewage and by filtration afterwards involves a double operation, and if we take very impure water and double treat it, we can reduce it to any extent.

Mr. JOHN KENNEDY.