The methods described are: "The Irrigation System," "The Chemical System," "Intermittent Sand Filtration," "Contact Filters," "Percolating Filters," and lastly, but not least, "The Septic Tank System." Nowhere, however, is it explained how any of these systems "get rid of them all."

It is never referred to or pointed out that the most recent system adopted for the removal of putrescibility, viz., "biological filtration following the removal of solids," will only remove about 80 per cent. of the total initial bacteria. Two hundred thousand bacteria per c.c. left out of every 1,000,000 per c.c. in the crude sewage.

The ordinary old text book references to the above systems are indulged in. The newer knowledge relative to biological treatment is ignored. Contact beds are described, and not a single reference made to the fact that these beds, when standing full of sewage, exclude oxygen, and simply act as "septic tanks," and that the whole "contact bed theory" has been shown by Professor Dunbar, of Hamburg, to be based on an erronous assumption and principle, is useless and harmful to oxidation in aërobic action, as compared with the percolating filter when maintaining an equilibrium between retention, absorption and oxidation. Mention is made of less area being required by percolating filters, but the obvious reason is not explained or referred to.

The effluent from a percolating filter is described as clear, practically, as the effluent of a good sand filter.

May we respectfully ask the editor of this report to turn to page 8, Vol. V., "Contributions from the Sanitary Research Laboratory and Sewage Experimental Station, Massachusetts Institute of Technology, and read as follows:—

> "The liquid flowing from a modern trickling filter looks to the untrained eye like the original sewage. The organic matter of the sewage is no longer 'burned up' to harmless mineral matter; indeed, there is almost as much organic matter in the effluent as in the raw sewage, and sometimes more. What change, then, has taken place to justify the use of the term 'purified?' The answer lies in the fact that the organic matter has been changed but not removed. To carry out the simile, the organic matter, though not burned, has been charred or partly oxidized, and this charring process has been sufficient to rob it of its putrescibility."

With reference to "Septic Tank System," we have the old, worn-out legends repeated. Hungry bacteria devour everything until only liquid remains. (See Dunbar, "Principles of Sewage Disposal," page 93): "The reactions taking place during sludge digestion have hitherto been assumed to be due to the action of bacteria, but the assumption has been made without experimental foundations." Then read on as to what follows:—

Here is an example from the report: "This period (twenty-four hours) of time is sufficient for such a complete sedimentation and liquefaction of solids to be effected that the tank effluent should contain but a few grains per gallon of fine suspended matter."

And this is British territory. There has been printed and published a fifth report of the Royal British Commission on Sewage Disposal. The man who talks of a complete "liquefaction of solids" and a few grains of fine solids in the effluent liquor has presumably made a life study of the subject.

Well, what is the good of talking? What is the use of repeating all the evidence of the Royal Commission on the increase of solids in the septic effluent and the evidence that 75 per cent. of the solids are not liquefied? What is the good of pointing out that the effluent is bacteriologically as impure as the incoming sewage, and that according to the Hamburg experiments, it was found to require just six times the area of filter for septic liquor as for non-septic liquor? Not a bit of good! Ottawa is apparently too far removed from the experimental work of other nations to benefit by them.

The report concludes with what appears to be some of the evidence, which reads like a round table chat on the subject. Here is a sample:—

Hon. Dr. De Verber asked Mr. Rust: "What amount of sewage could be discharged into a running stream so that it would not be unpleasant or dangerous to health?"

Mr. Rust replied that at a standard of Mr. Hering a flow of two or three million gallons of water in twenty-four hours could receive the sewage of 1,000 population, taking it at 100 gallons per head, without creating any nuisance."

Is this a piece of inspired impromptu evidence, or has Hering actually laid down this standard?

A stream of 2,000,000 gallons in twenty-four hours is equal to the discharge of a 12-inch pipe at a gradient of 1 in 115. The discharge from the 1,000 people is equal to a 4-inch pipe at 1 in 155. This proportion of 1 in 20 will produce no nuisance whatever. The five medicos appear to have leftt the "lonesome engineer" alone on this proposition. No doubt the name of "Hering" caused a thoughtful silence.

The funniest thing in the whole report is, however, to be found in the last paragraph of the section dealing with sewage disposal. Here the now well-known and oft-quoted "general conclusion" of the fifth report of the Royal Commission is actually given as a quotation from an English technical journal, "The Surveyor":—

> "It is practicable to purify the sewage of towns to any degree required, either by land treatment or by biological filters," etc. (For the rest, see the report.)

Is it not gratifying to find that these gentlemen have found time to glance at the "Surveyor" while devoting their lives to the study of the above subjects?

Note.—With reference to the above report, it is only fair to state that the witnesses, apart from Dr. Bryce himself, appear to have had very little to do or say. Practically the whole of the matter dealing with sewage disposal is under the name of Dr. Bryce.

The report represents about five-sixths Dr. Bryce, while here and there disjointed remarks made by the others are quoted and carefully edited by Dr. Bryce.

THE NAVIGABLE WATERS PROTECTION ACT.

Bill B. an Act to amend the Act respecting the protection of navigable waters has been introduced by Hon. N. A. Belcourt. The clause that is of interest to sanitary experts is as follows:—

> " 19a. No person shall throw or deposit, or cause or permit to be thrown or deposited, any sewage,