

14. Evidence has been given to us that where that has been done the flax-pulp deposited by this process has undergone putrefaction, and the water flowing over it has become really worse than would have been the case if it had passed out into the river without undergoing any filtration at all?—I should think it would if it were exposed to the air. But in such a case as that the solid part ought to be ploughed in—buried—covered with something. That is quite simple. If you allow it to lie exposed to the air it is bound to putrefy, and certainly it would smell more.

15. As to dairy factories, we have had evidence of a great deal of nuisance being created not by refuse milk or refuse whey, but by the washings of the milk-utensils and the small quantity of solid matter removed by the water. Could you suggest any chemical treatment that would neutralize the grease that creates this nuisance?—There have been many things tried. One firm that I know of spent a lot of money in trying to satisfy the requirements of modern sanitation, and I think their main difficulty was that they had not sufficient land—I mean, there was no want of effort. They did everything possible, and were honestly anxious to do the very best thing. But it does not matter how you precipitate this stuff, you have still got to irrigate a considerable piece of land with it in order to purify it. There seems to be only one way in which you can deal with dairy by-products, and that is by running as much water off as you can, and ploughing in the other and covering it up. It requires a considerable area of land, because the ground soon gets very soddened and sour.

16. How about in the case of clay land?—It would simply run over the top; that method would not do any good at all. None of the organisms that destroy sewage will live in clay.

17. Assuming the possibility of a powerful pump sending this refuse water through a spray nozzle and covering a lot of grass land in that way, do you think evaporation would get rid of it?—If you are going to that expense it would be better to put in a washer like they have at the meat-works, and collect all your solid material, and then put your water on the land.

18. How would you collect the solid?—By solidification—by cooling it down, the same as they do at the meat-works. They put the fumes from the digesters through a washer, and all the solid matter comes down in a sump.

19. Would it be possible to get the very minute solution of milk-refuse precipitated in that way?—I think so. It is only a question of money. This matter is albumen, with the exception of the hairs and the dirt from the cow, and the albumen is being coagulated, and it simply falls down like grease on the top. The only practical difference between the two is that in the case of the washer at the meat-works the fat is volatilized and immediately meets a stream of cold water, which coagulates it and drops it down.

20. *Mr. Nathan.*] If a grease-sump with three or four divisions of fairly large capacity was provided, and beyond the grease some coke filters were provided of at least six divisions, do you not think that that would take out most of the solids that might create a nuisance?—I think so; but the proper way to decide that would be to test the effluent.

21. Supposing that the effluent after that was slightly discoloured, do you think there would be anything in that effluent to cause any injury to stock after the effluent had travelled in a drain or a creek, say, 5 to 10 chains?—I am answering a hypothetical question. I should have to get the effluent and test it.

22. You stated that you had had evidence brought before you that the effluent from a flax-mill scoured the stock. I was wondering if the inquiries that your Department had made in the past had led in the same direction?—The effluent from a dairy factory would not produce scouring; it would probably produce something else.

23. But, to your knowledge, there is nothing that it has produced?—Not in stock; but we do know that unboiled washings from cans produce tuberculosis in pigs. We have overwhelming evidence in favour of that. In the one case you are dealing with the effluent of an animal; in the other it is a purely vegetable thing. The effluent from the flax-mill acts just as rhubarb does. In the other case, although the pollution—I mean the amount of suspended matter—might seem to be a great deal less, its potentialities for harm may be a hundredfold greater, because it may contain any of the organisms which cause ordinary disease.

24. You say that the washings cause tuberculosis in pigs: is it not true that the skim-milk which the farmers themselves use also causes that?—True.

25. When you were in charge of the Health Department, is it not a fact that you found that all dairy factories and dairy companies were anxious to work with the Department, and do all they possibly could to mitigate any nuisance?—Absolutely. I never came across a dairy factory that did not offer the best hand they could to us. Your firm particularly went to very great expense; and when we could not get the money from the central authority to conduct our experiments, you paid for the experiments.

26. *Mr. Baldwin.*] You know the process of arriving at the purity of water by a test as to the oxygen absorbed?—Yes.

*Mr. Baldwin.* Dr. Maclaurin was, in the Palmerston cases, employed by the flax-millers to analyse certain samples of water taken by the flax-millers in the Oroua River when three mills were running and when the river was in a fairly high condition.

*Mr. Broad.* Excuse me, but that is not correct.

27. *Mr. Baldwin.*] I will put it in this way: Dr. Maclaurin stated to the Court that he found that where the water reached the first mill it was a bad drinking-water, and where it left the third mill—the last mill—the water was unfit for human consumption—unsuitable for human use. What, then, would be the effect if the number of mills was doubled and the volume of water divided by four?—It would be very much worse.

28. Would the result be a serious one, from the point of view of health?—It is so already, apparently, from the evidence of the doctor, if he says it is absolutely unfit for human use.

29. He says, “unfit for human use;” “unsafe to wash dairy utensils;” “unsafe to use for