

POSSIBILITY OF POLLUTION FROM BOTTLES.

In this connection I may recall an outbreak I was asked to investigate three years ago, where a family of children were attacked by typhoid after eating oysters from a bottle. One child had been away the night the oysters were used, and he only of the family escaped. I am unable to trace these bottles, as they were bought from street hawkers by the fishmongers, none of whom have any regular supplier. It is, of course, most unlikely that five or six dealers should simultaneously have allowed infection to reach their wares, but a close examination of the cases shows that it is not impossible that the whole outbreak case can be traced to the one shop—namely, W.'s; for, although certain of the histories seem to show no connection with his shop, I have found frequently that the patient has forgotten where the oysters came from, and, after much cross-examination, will give quite a new version of the case. It has been impossible to personally interview all. Many I saw once at the Hospital, but, having now gone out, I have been unable to put questions to them which further investigation has shown to be necessary. Very much reliance, therefore, cannot be put on the statements as to shops, and this is shown in case 13, where the same case appears against the names of two or three dealers. Again, there are instances where a shopkeeper sends round for a few bottles to a neighbouring shop, his own supply running short. These small transactions might easily be overlooked or wilfully concealed, and so the track would be lost. It will be well to take each dealer in turn. W.—to whom by far the larger number of cases can be traced, and some with the greatest certainty—has a shop in the lower end of Queen Street, and a store for fish, oysters, poultry, &c., down on the Railway Wharf. He does a large retail trade. The sacks of oysters are kept partly at the wharf store, where there is little to render them unsafe, and partly at the back of Queen Street shop. The room in which the opening and bottling is done is kept fairly clean. Some of the bottles and receptacles in use might have been kept cleaner, but, on the whole, efforts evidently were made towards keeping things sweet. There is a small sink, with a trapped waste-pipe connected directly with the sewer, with city water laid on. Here the oysters are washed before opening, and the bottles and such utensils scoured. Hot water is not used. Below this room is a paved cellar where oysters and so on are stored. It was clean, and had cross-ventilation from a window at the back to a grating in Queen Street. There was no gully-sink in the floor. An earthenware soil-pipe from a closet and the waste-pipe from the sink above join in this place, and run along the wall into the main sewer.

SEWAGE POLLUTION OF LOWER QUEEN STREET.

This cellar, in common with all the cellars in Lower Queen Street, is subject to flooding with sewage from the main sewer when there is a heavy fall of rain during high tide. These cellars are then below sea-level, and, as there is no arrangement to prevent the tide running up the main sewer, the contents get backed up, and force their way through the traps, &c., and flood the basements. In W.'s cellar it is not in any quantity, merely damping the floor, probably from faulty drains; but in the basement of the hotel next door, and in cellars higher up the street, the whole place is flooded. This constitutes a most serious defect in the sanitary state of Auckland, and one which demands immediate attention. I am convinced that much of the typhoid which annually breaks out in the district could be traced to this cause. The cellar next door to this fish-shop is used by an auctioneer, and here I saw fruit and vegetables stored. These must be exposed to the same risk of sewage pollution, and it is easy to see how the infection can be spread throughout the whole district by such means. An attempt has been made in some instances to prevent this backflow by fitting a cap tightly over the gullies, &c. This, of course, is mere tinkering, and until some proper means of disposing of the sewage is adopted Auckland will remain a grossly insanitary town, since the most important business and commercial area is subject to this disgusting condition.

In addition to the cellar defects, the back premises of W.'s shop are threatened by the state of an alley-way on to which they open. Here there is a urinal attached to the hotel, but used by the general public, who gain access from a door in the alley-way, which itself is evidently used as an urinal, the whole place smelling most offensively. W., jun., and an employee complained to me of this, and I shall bring it to the notice of the City Council at once.

Here, then, we have all the elements necessary to originate the epidemic, and it is worth considering whether all the cases may not have had their infection from this shop.

Of cases 1, 2, and 3 there is no doubt, and as case 4 (young W.) lived and worked here he probably got infected here also, whether from oysters or not is immaterial. Case 5, although working in another oyster-shop, was (he tells me) well acquainted with young W., who used to come up to B.'s store where No. 5 was at work opening oysters. Here there is a link by which the cases Nos. 5, 15, and 17, opposite B.'s name, might really have originated at W.'s, the infection having been conveyed to the oysters by either 4 or 5.

Case 7 lives next door to W.'s, being barman in the hotel, and, though there is no history of his having oysters there, the same defective sanitary arrangements would apply to him.

Cases 6, 8, 9, and 20 admittedly ate oysters from W.'s. Case 8 might be objected to, because he was the only one out of many guests at a supper who contracted enteric. However, on looking up the literature, I find similar cases mentioned by Drs. Newsholme and Winter Blyth.

Cases 10, 11, 12, and 19 are uncertain as to where the oysters came from, which leaves but three patients who can in no way, so far as I can gather, have received the infection from W.'s shop. This result is arrived at only if we permit ourselves to adapt the facts to the theory, but it is as reasonable an explanation as any other I can offer.

B. has a store in Albert Street, where case 5 worked, and a retail shop in Lower Queen Street. He does a good deal of exporting, and has sent many shipments to New Plymouth and Wellington. The Albert Street store, where the oysters are opened, is an old shed, much out of repair, and the arrangements are none too clean. Although an employee suffered from typhoid, only two other cases can be attributed to his oysters, so that there can have been no very general infection there. The store is too high up to be affected by the backing-up of the sewage. As many of the oysters sent south by B. were in sacks and not bottled, it would be interesting to know whether any typhoid cases can be traced to them, especially as they were picked from the Onehunga beds.

S. has the largest fish business in Auckland. His store and retail business is in Customs Street. There is no cellar to be affected by sewage. The arrangements here are cleaner and better organized than in the other shops. The four cases against his name are only doubtful, three being shared as possibly caused by other dealers, while the fourth (No. 16) is put in only because S. alone sends oysters to Waitara. Investigation there will throw light on the question.

J. has a small retail business in Lower Grey Street, but supplies oysters to a number of smaller dealers. Premises fairly well kept; some of the utensils looked dirty. Stores and opens oysters in a cellar below the shop, not affected by sewage. No cases very clearly traceable here. He deals directly with the pickers, and the shipping returns show that during the whole of May he was being supplied from Russell. Has had no transactions with W.

The C. Café, a purely retail business in Queen Street, in conjunction with some dining-rooms: Oysters are stored in a room at the back of the shop, and opened as required at the counter. Fairly clean, no cellar. Of the two cases possibly originating here, No. 7 more probably was infected at W.'s, and No. 19 could not be clearly traced.

B.'s, a retail business in Queen Street: Oysters stored in a cellar (being towards the upper end of the street it is not so directly affected by sewage), and opened as required in the front of the shop. Premises are kept clean. Neither case is likely to have originated here. Deals in Manukau oysters, leasing the Puketutu bed, which is in all probability quite safe.

The D., an eating-house in Lower Queen Street, situated in a cellar, and therefore affected by sewage: A cap has been fixed on the gully to prevent this backflow; otherwise premises are kept scrupulously clean. Only one case ate oysters here, and it is more probable that he got the infected oysters at W.'s.

W., Onehunga: Picks for himself, and does a large retail business as well as supplying other dealers. I have already dealt with this case.