

permits of the escape of sewer-gas into the subsoil is an agent for evil, the potency of which is rarely realised by the public at large. Not only by actual pollution of the water-supply does a leaky sewer militate against the welfare of the people, but by the saturation of the soil in the vicinity of dwelling-houses. In obedience to the law which regulates the expansion of gases, no sooner is the temperature inside the building raised, by means of fires, &c., above that of the outside atmosphere, than the house becomes nothing more or less than a ventilating-shaft for the area surrounding it. It offers, so to speak, an invitation to the sewer-gas which passes through the house as it ascends. I wish to emphasize this point, because not rarely are local bodies to be found who excuse their faulty sewers on the score that all diseased germs will be filtered out of the sewage ere it reaches the surface.

Then, again, the danger of filthy surroundings is not to be measured only in this way. Accepting, as we must, in the face of evidence from all parts of the world where plague has appeared, that it is mainly through the mediation of the rodents that this disease has been spread from one country to another, the immediate destruction of all garbage upon which such animals live, combined with an active campaign against the rodents themselves, is a matter of the very greatest importance. It is gratifying to be able to report that the local authorities all over the colony fully realised the urgency of the need there was for stringent and continuous efforts for their destruction, and did not hesitate to set to work. Prices varying from 1d. to 4d. were offered by the various municipal bodies for rats delivered at their destructors. Directions were issued detailing the precautions which should be taken in the handling of such animals, so as to prevent infection in case the rats were infected with plague. The bodies were required to be scalded with boiling water, or dipped in kerosene and singed before being touched, and then the rats were to be cremated. Poison was distributed free of charge to all that cared to accept it, and in most districts a day was set apart for the laying of the poison, so that as far as possible it might be simultaneous. This is most important, as otherwise the rats take fright and simply make for more hospitable quarters. That the various methods were productive of much good is undoubted, but a fortune still awaits the piper who shall discover the tune that will charm these plague-bearers from our shores.

The experiments made by Dr. Danysz, of the Pasteur Institute, seemed to indicate that in his *cocco-bacillus* a powerful agent for the destruction of these pests had been discovered, and I asked Mr. Gilruth to obtain a small quantity when in Paris, so that it might be tried here. The use of this material has not, however, been attended by a great measure of success in Sydney, so that in the main we had far better rely on cleanliness, destruction of all garbage on which the rodents feed, systematic poisoning when possible, and the keeping of ferrets, dogs, and cats. Careful and extensive experiments are now being conducted by Mr. Gilruth in the laboratory in order to test the value of *Cocco Bacillus* as a rat exterminator, and a *résumé* of them, with the results, will be published later.

CASE OF PLAGUE IN AUCKLAND.

It is a matter for sincere congratulation that, despite the opposition and apathy displayed by some people in Auckland, no other cases occurred. The moral support which His Excellency the Governor, yourself, and the Right Hon. the Premier gave us in the handling of this case is, I consider, worthy of being put on record.

Mr. Gilruth in his full and exhaustive bacteriological report on this case, and the presence of plague among the rats, has in a measure dealt with this aspect of the case, and I will not dilate further on the matter, but simply state that not one medical man on whose opinion the medical world of New Zealand puts the slightest weight took part in the plan of campaign against us.

The facts in reference to the unfortunate man Kelly are as follows:—On the 17th June, 1900, Dr. Moir was called to see a Mr. H. C. Kelly, residing in Upper Queen Street. He found him presenting symptoms which led him to suspect that the disease the man was suffering from was bubonic plague. It was not, however, till the 20th that he felt justified in notifying the case as plague. This regrettable delay was occasioned in part by the fact that Dr. Moir had not previously seen a case of this disease, and partly by his knowledge of what the proclamation of the existence of plague meant to the colony from a commercial as well as a psychic point of view. He tried to find Dr. Baldwin, the District Health Commissioner, who happened to be absent in the country on duty. He should, of course, have notified the City Council, but he did not do so. On Friday, the 22nd, he asked Dr. Girdler to see the case in consultation. Dr. Girdler at once agreed that Kelly was suffering from plague. In company with Drs. Baldwin and Girdler, Dr. Moir again went to see Kelly that evening, but by this time the patient was dead.

The clinical history of the case was that until the 16th June Kelly was perfectly well. He was suddenly seized with pains over the lower part of the body; sickness followed, gradually increasing drowsiness and apathy, and the development of swellings in his left groin and right axilla.

In the presence of Dr. Baldwin, Dr. King (Medical Officer of Health for Auckland), and Dr. Moir, Dr. Girdler made a *post-mortem* examination of the body, and the following is his report:—

SIR,—

Auckland, 24th June, 1900.

At your request I made a *post-mortem* examination on the body of Hugh Charles Kelly, of Upper Queen Street, who was reported to have died of bubonic plague. This examination was made on Saturday, at 2 p.m., 23rd June, 1900, about eighteen hours after death, in the presence of Dr. Baldwin, Plague Commissioner; Dr. Moir, medical attendant on the case; and yourself, as Health Officer.

The body was clean and well nourished. There were no bruises or marks of violence on body or head. The *post-mortem* staining was well marked on back and sides. *Post-mortem* rigidity was well marked. There were no spots on the legs, abdomen, sides, or back. There were a number—about twenty—spots on the upper part of the chest and shoulders and face. These spots were red, irregular, somewhat like inflamed flea-bites, and on the face they were more irregular, and inflamed from rubbing. There was no secretion of pus. There was a small abrasion on the skin on the left ankle about the size of a sixpence. It was scabbed over. There was no redness or cedema of the skin, no inflamed lymphatics, no enlarged glands on that leg. The glands of popliteal space were not enlarged.