

disease is constantly "at their doors," and especially that there have been repeated epidemics of typhus fever, a certain indication of, and attendant upon, overcrowding. This is the sanitary status, and the vital results associated therewith, as regards both institutions; but comparing one institution with the other, we find a marked difference to the disadvantage of the boys' school—a difference of such a kind as to suggest a probable explanation of the event for the cause of which we are in search. The overcrowding is much greater in the boys' than in the girls' school, *i.e.*, the external free space is much less per head; the internal arrangements are more defective, the accommodation and general sanitary condition of the building inferior; the general mortality among the boys is higher; the proportion of the total deaths caused by pulmonary diseases, and especially by acute diseases of the lungs, is considerably higher. The outbreak in March was in its nature a febrile disease, tending to implication of the lungs, and especially to pneumonia. It seems identical with a disease which has been observed in other similar institutions, more or less detailed accounts of which have been given elsewhere, in all of which the observers had a difficulty in assigning it a place in nosology, but in all of which it was associated with insanitary conditions of the nature of aerial contamination. It suggests a specific poison, from family resemblance in explosive character, local limitation, and clinical features, to other well-known typical diseases of the epidemic and infectious class. No specific micro-organism was discovered in this, or has been, so far as is known, in any other like outbreak. The rapid fatality in the fatal cases shows that this poison, though in the cases in which life was not at once extinguished it tended to expend itself upon the organs of respiration, was the cause of the disease. The local disease was the result of a constitutional infection, which was capable of killing without the local disease. The *post-mortem* appearances pointed to a specific poison allied to that of enteric fever. Such as they were, they were distinctly lesions of the mesenteric glands, and of the glandular system of the small intestines. The experience of the Fever Hospital is strongly suggestive of a causal affinity between certain forms of pneumonia and enteric fever. The two diseases are frequently confused, both in their diagnosis and local incidence. This observation, as well as the present

epidemic, raises a strong suspicion that we must enlarge our conceptions of the morbid manifestations which are to be regarded as proof of the influence of air contaminated with organic effluvia. If so, we can no longer hold that the absence of enteric fever warrants us in concluding that known impurity of the air from sewage emanations, for example, is innocuous. The prevalence of acute pulmonary diseases may be the result. The presence of "Pythogenic Pneumonia" and "Epidemic Pneumonia," in nosology, and the circumstances of the well-known outbreak in the East Sheen Boys' School, and other similar recorded outbreaks, give this observation support and established recognition.

In the course of the outbreak the patients at Belvidere were seen by several eminent professional friends at my request. Professor Gairdner was inclined to regard them as cases of "Influenza of a malignant type;" Dr. Finlayson had no doubt that they were examples of what has been called "Epidemic or Infectious Pneumonia." Dr. Samson Gemmell had the advantage of seeing all the cases, having accompanied me repeatedly in my visits to the School as well as to the Hospital, and seen the cases at all stages, within an hour or two of seizure as well as subsequently. I have therefore asked him to give me in writing his general impression, which he has done in the following short memorandum:—

"It seems to me evident that in the recent epidemic in St. Mary's School we had to deal with a disease allied to the acute specific fevers. The sudden onset with headache, sickness, shivering, and other signs of profound constitutional implication point decidedly in this direction. Moreover, the speedy issue in the four fatal cases (three of them dying after a few hours' illness), finds its closest analogue in the so-called malignant forms of epidemic disease, which terminate in some instances so rapidly that they would baffle diagnosis were it not for clear association with cases having more ordinary manifestations. The two *post-mortem* examinations revealed no specific lesions, but the extremely fluid character of the blood in one case, and the general tendency to enlargement of the spleen and mesenteric and intestinal glands in both, are quite in keeping with the idea of acute specific poisoning, although the microscopic examination of the blood and organs revealed no micro-organisms.