

## MUNICIPAL DEPARTMENT

### SANITATION: AN IDEAL AND A REVIEW.\*

The lecturer described the condition of sanitary practice as he remembered it fifty years ago, and glanced at the improvements he had seen manifested in the course of that long period. He showed how great had been the advancement in all parts of the kingdom; how there had been records kept of the mortalities from different diseases; how some diseases like typhus, had almost passed away; how other diseases, such as cholera, had been largely controlled; how intramural burials had been done away with; how our armies had gained in the matter of health and longevity; how our gaols had been transformed from foci of disease to foci of health; how the medical officers of health had become a part of the health authorities of the kingdom, and had been followed by the sanitary inspectors; how sanitary institutes and other societies for the promotion of health had been started, and how completely the public mind had changed in considering the relations of preventative to curative medicine. What he had found wanting as a sanitarian, was the art of making people individually interested in the subject. He described the steps he had taken to bring about a change in this direction, and his construction, in 1875, in imagination of a model city, to which he had given the name of "Hygeia." He had taken care in the picture to describe everything that could be effected at that time, so that truly there was nothing visionary in the details, although the general outline partook to some extent of an imaginary quality. The effort succeeded. The model city, in parts, commenced to spring up everywhere, and the ideal of "Hygeia" as a working model had, as he had lived to see, become impressed for action on the popular mind. He had been requested to throw out some future ideals which, like the previous one, should be addressed to those who trusted in the future to improve still further the national health. In doing that he would suggest nothing that was impossible,\* although some things might appear at first to be extreme.

The first idea put forward was that of national main drainage. Nothing was simpler, and yet no systematic plan had ever been attempted. The only true way of draining a town, he pointed out, was to separate the sewage matter from the houses from storm water, and the well known adage of the late Mr. Ward, "The sewage to the soil, the storm water to the river," remained absolutely true. The whole country was now surveyed, laid out, leveled, and prepared with infinite toil

and engineering skill, in the network of railways which intersected everywhere, and it seemed to him clear that we had nothing to do but to construct along the side of all our great railways a series of iron or brickwork tubes—iron, perhaps, being the best—to start from every place where there were houses, and to let the sewage from those houses be pumped into the main by the side of the line, and be collected and conveyed away by side conduits to spots of land selected for utilization, so that the land might receive direct the benefits of sewage for the purposes of fertilization away altogether from the residences of man, and in a manner perfectly harmless to the health of communities. For such conveyance the levels were all prepared, and there was such open, ample and unused space, it would be no more difficult to lay the conduits down than it had been to place our telegraph lines. The conduits in the towns themselves would not be larger than the tubes which conveyed water, and in the case of the largest towns there would be so many starting points that every district would drain into the nearest conduit or principal conduit on the line, so that there would always be a brisk current towards the open country, with the minimum quantity of water to carry the solid material. The motors that would be required for the movement of the sewage would be of the simplest character, and the gradients would be so slight that the pumping power demanded would be comparatively inexpensive. At proper points there would be pumping stations, which, by exhaustion, would draw the sewage from the town, and by return stroke would raise it to fall to the level in the direction leading to the exit or exits, and as the main tube would be easy of access at any point, it would be possible to tap it, so to speak, anywhere in its course, in order to draw off its contents for utilization.

There were towns in this kingdom which were ready made, as it were, for this method of drainage, and in them the effect would be, if the exhaust system were adopted, that the houses during every moment of the day would be cleansed of all the impurities that were now lodged about them. They might begin the process with one town, large or small, and might extend as they pleased. They had all the open land of the country for the application of this sewage removed, and in a very few years every part of the sewage, instead of being cast into the sea, or poured into the river, or laid up in the cesspool, could, without decomposing, be given back to the land for its natural services there. If conduits along railways could be constructed to take the sewage away, other conduits could be as easily introduced for bringing in from our large lakes the water necessary for the supplies of towns in quantities sufficient to bear away the sewage. Thus a complete circulatory system could be set up; a kind of arterial and venous system in every place, while the storm water could be employed either as soft water for domestic purposes, or as a current, going back in an undefiled state to the river.

In addition to a perfected system of removing sewage from towns came also the disposal of refuse which could not be carried away by water. It was important in almost all places that a better method of disposal of refuse should be carried out than now existed. Refuse heaps, so common about towns, though they might not be a regular source of evil, like sewage unremoved, were often a cause of great evil. The ashpits in communities large or small became real nuisances, although the system of sorting might be fairly well carried out. To render such accumulations impossible, the course to be pursued was sufficiently easy, and should consist in the application of fire to everything that was consumable.

(To be Continued.)

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\*An address delivered by Sir Benjamin W. Richardson before the closing meeting of the Sanitary Conference at Manchester, England, and printed in the Building News.