

tion of the house itself is entrusted to an architect.

In only a few of the smaller cities and towns in Canada has the water carriage system yet been introduced, or if introduced, is only very partial in its application, and it may be safely said that but few, if any of the towns of 5,000 inhabitants and downward have got beyond the old privy vault and cesspool. I will speak now principally of the town of Orillia, but I am satisfied that what I am about to say of it will equally apply to most, if not all the towns of the same size in the province. The population of Orillia is about 5,000, but it is much older than many other towns in Ontario of the same population. It celebrated its jubilee several years ago. No attempt has ever yet been made in the construction of public sewers. A few private parties who have of recent years built better class houses have had constructed covered drains leading from their house drains to the open street gutter and the sewage from those, together with the surface drainage of the town is conducted through open ditches or gutters at the side of the street to the lake front. It may be said that Orillia possesses many advantages over most other towns of a similar size. She is situated on elevated ground so that from all directions she can command a good fall for a free outflow to a lake of considerable size. She possesses an excellent water system with an abundant supply of water, which by gravitation can be furnished to the greater number of her inhabitants in copious quantities. Everything, in fact, is favorable for the introduction of a perfect system of drainage, but although I have frequently urged upon the authorities the necessity for taking steps in the matter, no movement has yet been made in that direction. Various expedients and methods have been suggested and in many instances adopted, for supplanting the old-fashioned privy vault in towns where the water carriage system is not practicable, but I shall only be able to briefly allude to them. Among those found to be most useful may be mentioned the "ash closet system," the "dry earth system," and the "Rochdale pail system," each one of which are very good in their way and have been found to answer the purpose for which they are intended,

fairly well, when the system is properly carried out, which is seldom the case, especially among the poorer and more ignorant classes. Much of the attention of sanitarians and others has been given of late years to the disposal of excreta and sewage, and the subject demands all the attention that can be given to it, in view of the dangers to life and health, arising, not only from foul and noxious gases, but through water contamination. The system of discharging sewage into rivers and creeks is universally condemned, and for obvious reasons, properly so. A system of carbonization in retorts has been attempted in some countries, but I believe is considered impracticable as it is tedious and expensive. The system which above all others must commend itself to those who are interested in the matter, must be that of employing it as a fertilizer, either after it has been deodorized by dry earth or after certain processes of manufacture applying it directly to the soil, or by the passage of liquid sewage over and through the soil. The reports of Dr. Alfred Carpenter, giving his experiences of sewage farming at Croyden, England, must be familiar to the members of this Association. By skillful and scientific processes he was able to utilize the whole of the sewage of Croyden, a town of between fifty and sixty thousand inhabitants, in such a satisfactory manner that he raised it from being one of the worst into one of the best sewered towns in the kingdom and at the same time made the investment a paying one. He has satisfactorily proved that sewage can be disposed of with advantage to the health of the people and as a paying investment by utilizing it as a fertilizer. From my own knowledge and experience I should strongly advocate the adoption of the dry earth system for solid excreta, in the smaller towns and villages throughout this country.

The question of land drainage is one which I shall leave to some members of this committee who may be present, or to an open discussion by the members of this Association, with one remark only; there are still thousands of acres of land in this province waiting to be drained, and year after year they continue, by their malarial exhalations, to contribute their full quota to the long list of preventable diseases.