

parts of the country and Europe, visit Pullman to study its construction and its sanitary advantages. It has become a recognized factor in all city building and in city extensions, and its great suggestive value is fully acknowledged and appreciated in both hemispheres."

The question has been stated to be a most difficult one for Toronto on account of the question of expense, and it would be idle to expect that a method likely to dispose of so great a difficulty for so many years to come, ought to be proceeded with in a hasty manner, either regardless of results or expenditure.

But with examples of successful sewage farms in England, in France, in Germany, and in America, a city, aspiring to become metropolitan for Canada, cannot long afford to risk her good name either for progress or health upon a water-front which greets the weary excursionists from Niagara with perfumes not of "Araby the Blest."

THE SANITARY ASPECTS OF COMBINED HEATING AND VENTILATION.

NOTHING probably has a greater bearing upon the many-sided questions both of the preservation of health and the cure of diseases than the equability of house-temperatures and the purity of house-contained air. The term "artificial climates" has been with great propriety used to designate essential differences between the ordinary external atmospheres and those within buildings, whether public or private. This great difference having been recognized, the problem at once presents itself how, in the various circumstances under which people live, or are aggregated in houses, tenements, churches, schools, theatres, etc., atmospheres are to be preserved, both as regards purity, moisture and temperature in such a condition as their influence can in the greatest degree approximate themselves to those which are most favorable for the preservation of health. Our attention has been directed to the special question of the atmospheres of school-rooms by a description found elsewhere in this number regarding the methods adopted in the so-called Smead-Dowd system of heating and ventilation.

This system is in a word one of introducing large volumes of warmed fresh air into one or more rooms of a large building at one side, while from the other sides by gratings the air of the room

is being continuously abstracted by a shaft, leading this warm air downward and along a brick-vaulted space in the basement, and thence to the outer air by an extracting chimney, or heated air-shaft. The system is not in all respects perfect, but for such buildings as crowded schools it certainly has one positive advantage, viz., that of continuously abstracting the air which so rapidly becomes foul by the exhalations from the lungs and bodies of many children, thereby not only maintaining, as has been tested again and again, the air as regards carbonic acid in a state of purity far above the average for such occupied rooms, but also aiding to remove infective particles in those instances where children who have had diphtheria and other forms of disease have returned to school, before the air-passages have become entirely freed from the germs. Another feature of the system of heating is that which provides for the desiccation of the excreta in brick vaults, which are placed in the basement of the school building, by the current of outgoing air being continuously drawn over this material. Personal inspection has abundantly shown that this desiccation is well effected, and that the outward current being continuous, there is no danger of effluvia, from this source, returning to contaminate the school air.

This latter possibility was some time ago raised as a strong objection to the Smead-Dowd dry-closet system, and one or two American papers published articles denouncing it, until the State Board of Michigan examined fully into the system, and found that dangers from this source were imaginary. We have recently observed in a western Ontario paper that the system has been attacked from another standpoint, with as little foundation. It refers at length to the dangers which may be apprehended from the outgoing air carrying with it the germs of all sorts of diseases, and disseminating them broadcast over the whole neighborhood.

Apart from the fact that school-children are not likely to be present to any great extent while they are suffering from the acute form of any disease, and certainly not from other than diphtheria or the eruptive fevers, we have yet to learn that diseases, other than cholera or typhoid, have been shown to be disseminated by means of the excreta. Of these we do not have cholera in Canada; and typhoid fever, it need hardly be said, does not large-