

laid down, neither of which appeared to be in any way deleteriously affected.

In our second group (13 years), 18 out of 1,288 had been so unfortunate, and of these four were infected, giving a percentage of 22.2 per cent., as against 1.2

per cent. for all of that age period.

These figures are much too small to be taken as final. Still, from a general view, we may conclude that dosage is a very important factor in the ultimate reaction of the organism to this parasite.

FALSE STARTS IN MUNICIPAL SANITATION

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The steady growth of municipalities throughout the Dominion (even at the expense at times of rural districts) makes the points touched upon in this paper the more fitting at the present juncture. Particularly in the Western Provinces, where cities spring from villages overnight, do we find ever present problems in the endeavor to keep pace with the rapid growth. The provision of proper sanitation in its large sense of a pure and sufficient water supply and an adequate sewerage system are problems not only of great importance but are frequently very difficult of solution.

The optimistic outlook of the average Western citizen and the broad spirit of prosperity tends to bring large areas of more or less developed property under one municipal government. The extension in the way of improvements and public utilities which are naturally expected in the recently incorporated or annexed districts, demand excessive expenditure if the improvements are to be durable and permanent, and there is consequently a great temptation to substitute cheaper materials and less efficient designs in the effort to cover the territory. In the smaller towns, especially in the older provinces all over the country, the expenditure of a dollar or two in sewer and water supply is often regarded as a prodigal act and here too lies the same temptation. It is barely possible that an engineer in making up estimates for works of this character will present a cheap design not representing the best practice along with the more expensive one which he recommends. The choice if left to the corporation, being promoted by the spirit of economy, may fall upon the very scheme which they should avoid, costing less in first outlay, but becoming only

too often by far the most expensive in the long run.

To illustrate the point it is only necessary to consider for a moment the average small town with its outdoor conveniences and no water. After an epidemic of typhoid, threatened or real, the people if not absolutely apathetic are panic stricken; sewers are demanded at once, and a water supply purer than their old wells can afford. But their resources are limited; their Council too may be parsimonious. An engineer is called in. Warned that they are a poor community, he is instructed to give them something which they describe as economical, and which, plainly, means "cheap." To land the job by placing the cost within the supposed limits of their pockets is his problem.

There are so many such cases that one must pause to choose.

A small village recently wanted a water supply. Being near a city it arranged for a connection. Its wooden mains of six and four inches diameter were laid in good faith. They stretched a mile in two different directions. There was not enough money left to complete the circuit. Several four inch laterals led off from the feeders, terminating mostly in dead ends. The only chance of salvation from stale or deteriorated water lies in the confident expectation that the mains will leak sufficiently to provide a pure stream of running water in the mains all the time.

A second case is of a town which had to build a system of sewers; not for sanitation, but because the new water mains leaked so badly that basements were flooded everywhere, and the town adopted the novel expedient of laying drain tile parallel with their sewers, introducing the