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TYPHOID FEVER.*

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In this paper I shall say very little about the type of the disease during the recent epidemic, and about treatment, as these will, no doubt, be subjects to which my colleagues of the department of Practice of Medicine will direct your attention at greater length.

I fear that in connection with the epidemic which has prevailed throughout the province, and in various other portions of this continent, Toronto has received more than its own share of prominence. It is not my intention to point the *tu quoque* finger at any other individual locality by name, but I have gathered from provincial and other authorities sufficient data, and I may say in general terms that there are at least two cities in the province whose ratio of cases to population are greater than that of Toronto; one village in which it has been double, and one township in which it has been 50 per cent. greater.

My available figures from cities south of the border are limited to two; they show in one large city a slight increase over us, as shown by the death rate; in the other the ratio of cases this year is only half of ours, a decided decrease having taken place there as compared with last

year; still we should not continue in our sanitary transgressions even in company. Toronto has been noted as a healthy summer resort for our neighbors to the south, and should seek to regain and maintain her reputation in that respect.

Laboratory and other observations on the life of bacilli of typhoid.—It is not my intention to refer to all the facts which have been made known in regard to the life, history, and reproduction of the bacillus of typhoid, but only to a few which, it has occurred to me, may throw practical light upon the causation, spread, and restriction of the disease.

The growth and reproduction of typhoid bacilli outside the body has been demonstrated in the laboratory. It has been shown that for their successful cultivation a certain amount of organic matter is necessary. Dr. Meade Boulton has found that in beef broth, containing 6.7 parts per 100,000, they will live for months. The cultures can also be more successfully manipulated with certain forms of organic matter than with others. Conversely, it has been shown that the absence or great scarcity of organic matter is unfavorable to their development, that in a class of waters designated "potable waters" they will die out in a brief period—say, six days.

Interesting observations have been made in regard to the action of various kinds of micro-organisms (and amongst others the typhoid bacillus) on each other. Temperature has been found to have a decided modifying influence. Vaughan found that at a temperature of 20° C.,

*A paper read at the Post-Graduate course of the University of Toronto, December 19th, 1890.