

THE TOXICITY TOWARDS ANTHRAX AND STAPHYLOCOCCUS, OF SOLUTIONS CONTAINING PHENOL AND SODIUM CHLORIDE

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The following experiments were carried out in the pathological laboratory of the University of Toronto in the winter of 1905-6, under the supervision of Prof. J. J. Mackenzie, with solutions supplied by Prof. W. Lash Miller.

Cultures of the "potato bacillus" (*B. mesentericus*) of anthrax (*B. anthracis*) and of *Staphylococcus pyogenes aureus* were grown on agar, the colonies washed off the agar, without breaking its surface, by 0.6 percent salt solution, and the suspension let stand (sometimes centrifuged) so that clumps might settle to the bottom. A second measured portion of the 0.6 percent salt solution was then infected by from one to three loops taken from the upper portion of the suspension; this constituted the "second suspension," in the case of potato spores and anthrax spores it was heated to 70° C to destroy vegetative forms. In the poisoning experiments, 10 cc of the toxic liquid was inoculated with a loopful of this "second suspension" and the time noted; to ensure that a good average sample should be removed for the inoculation, a mixing-rod was kept in the suspension tube, and the liquid was thoroughly stirred before a loopful was removed. The poison was then left to stand at room temperature, or in an incubator, and at measured intervals of time a loopful from it was added to 10 cc agar jelly, which had been melted and kept at 45° C; this was poured into a petri dish, allowed to solidify, and put away in the incubator. The number of colonies that grew on a measured area of the plate was taken as a measure of the number of cells left living in the poison at the time the agar was infected.

The usual precautions were taken against accidental infection—tubes and instruments were sterilized, tubes plugged with cotton wool which was "flamed" before removing, etc.,