of the Section. My object in making the foregoing observations is simply to open the discussion; and, in doing so, to suggest topics for the consideration of subsequent speakers in the debate. The plan I have proposed is, no doubt, a costly one. But the duty of the physician who is true to the traditions of his noble profession is calmly and thoughtfully to devise means whereby, under Providence, the health of the people may not merely be restored, but be preserved.

In one scale of the balance lie the gold and the silver—in the other are precious lives of fathers, mothers, children rescued from disease, or, it may be, death. Can we doubt for a moment to which side the beam of the balance will incline?

**ART. VII.**—*On the Experimental Study of Disinfectants.* By J. Lane Notter, B.A., M.Ch., M.D., Dubl.; Surgeon-Major, Army Medical Department; Fellow of the Chemical Society; Assistant-Professor of Military Hygiene in the Army Medical School; Diplomate in State Medicine, University of Dublin, &c.

The term "disinfectant" in the following pages must be understood only to apply to agents which destroy, by chemical action, not only the decompositions which are causally connected with the presence of organisms, but the organisms themselves.

It is only under such a condition of things that we can say with any degree of certainty that the contagia of communicable disease are deprived of their specific action, and anything short of this will not, in the true sense of the term, be "a destructive agent."

It appears to me desirable, for many reasons, to extend our inquiries into this very complex subject, and more especially to investigate into the power various agents are said to possess not only for correcting the putrefactive odour in offensive liquids, but also in subjugating the development of bacteria.

It will be understood that in the following remarks I do not wish to attach too much importance to the coincident appearance or occurrence of microscopic forms, as if to imply that these were the morbific agents. My object is simply to compare the relative powers of various disinfecting agents, and I believe this to be the very best method to adopt in order to arrive at a correct conclusion.

Hitherto the majority of experimenters have contented themselves with noting the power certain agents possess of controlling offensive odours, and with the sense of smell alone decided the
question; but we know as a fact that only a very limited relationship exists between the subjugation of bacteria and the destruction of the putrefactive odour. For example, Condy's Fluid destroys the odour, and the bacteria not only retain their activity, but appear to grow and flourish; while Chloralum, which does not destroy the odour, partly precipitates the bacteria.

In the following experiments I have attempted to place on record a detailed and minute microscopic examination of the effect produced on a measured quantity of beef infusion, swarming with bacteria, by adding to it certain known proportions of various disinfecting fluids and powders.

I believe the full effect only of the agent to be produced when there is an arrest of motion, with complete precipitation and disorganisation of the bacteria, and I have endeavoured in each case to look for this result. I do not consider the formation of bacteria in filmy masses the same as being precipitated. The two forms are quite distinct. In the latter there is total disorganisation; in the former there is only an arrested movement, due to the nature of the surrounding frond in which they are enveloped—they are, in fact, bacteria in the zooglea form, their nutritive and excretory processes, as well as the development of the putrefactive odour, being as vigorously carried on as when they exist in a free state.

When these organisms rush across the field, I have called the movement excursive, and by this will be understood freedom and activity.

The agents submitted to experiment were the following:
1. Carbolic Acid (crystals).
2. Carbolic Acid.
3. Chloride of Lime.
5. Condy's Fluid.
7. Terebene Liquid.
9. " (yellow).
10. Sanitas.
15. Sporokton.