

**THE COMPARATIVE ACTION OF DRY HEAT AND SULPHUROUS ACID UPON PUTREFACTIVE BACTERIA.**

Pieces of woolen and cotton cloths and wadding were dipped in a solution of putrefying flesh and slightly dried; and after being shown to be infected by causing discoloration and development of bacteria in a Pateur solution, one portion was subjected to dry heat, and the other to the influence of a definite quantity of sulphurous acid. When these agents had operated for a certain time, the substances were brought into a developing liquid and again observed.

These experiments, which were conducted by Dr. Wermch, were as follows:

First. Fragments of the materials above referred to, treated as mentioned and dried, produced in sixteen experiments an exceptionally rapid disturbance of the test liquid. In four experiments with wadding this was somewhat retarded. It took place most rapidly in tubes which had been inoculated with woolen thread.

Second. After inoculation with the material which had been exposed one or two minutes to a dry heat of  $284^{\circ}$  to  $300^{\circ}$  F., clouding took place in four of eight experiments; but only after from two to three days. With material which had been exposed from ten to sixty minutes to a heat of  $230^{\circ}$ - $244^{\circ}$  F., in five out of six experiments a development of bacteria took place after the end of twenty-four hours.

Third. Substances which were exposed five minutes to a heat of  $257^{\circ}$  to  $302^{\circ}$  F. produced no infection whatever in ten experiments. The test liquid remained clear for eleven days from the time of inoculation.

Fourth. When the objects were exposed under a bell glass to the action of a percentage, by volume, of 1.5, 2.2, and 3.3 of sulphurous acid, in eight out of nine experiments a bacterial clouding was developed in the sulphurized material, whether the application had continued for one hour or twenty-two.

Fifth. In fifteen experiments, in which sulphurous acid constituted 4.6 and 7.15 per cent., by volume, of the contents of the bell glass, the introduction of the sulphurized material produced no cloudiness, when the experiment continued six hours and more. On the other hand an exposure of 20, 40, 60, and 200 minutes was followed by the development of bacteria.

In conclusion, the fact was considered especially interesting that the different fabrics gave up the infection concealed in them with different degrees of rapidity, the woolen fiber the quickest, the linen less easily, and the wadding with the greatest difficulty of all.