

portion carefully decanted off, and one-quarter per cent. of chloroform added as a preservative. It was found that the serum thus prepared kept perfectly well for some weeks.

EXPERIMENT I.

The first experiment was conducted under the following conditions: Eight guinea-pigs and ten rabbits, presumably in good health, were taken, and their weight and temperature before inoculating were obtained. They were then numbered and kept in separate hutches. On March 13th, 1902, they were inoculated, one half intraperitoneally and the other under the skin of the left leg, with a culture of the bacillus tuberculosis of extremely mild virulence, standardized as follows:

A culture of the bacillus typhi abdominalis taken from the old laboratory stock was inseminated in 1.5 per cent. acid broth and grown in the incubator at the usual temperature for twenty-four hours. The culture obtained was then killed with formalin vapour and used as a standard. A glycerine agar culture of the tubercle bacillus referred to was ground up in a sterile mortar with sterile normal saline solution. This was allowed to stand until the heavier portions had sunk to the bottom. The opalescent supernatant portion was carefully decanted off and diluted with sterile normal salt solution until it reached the same degree of opacity as the standard culture of the *B. typhi*. Hanging-drops were then examined under the microscope to see that there were no gross masses of bacilli floating about. One cubic centimetre of this material was then used for inoculating. Care was of course taken as far as possible to avoid contamination in the course of the various manipulations, sterilized vessels and instruments being invariably employed.

The animals were shaved at the desired points and the skin sterilized with bichloride, 1-1000. The inoculations were made with an all-metal syringe of five c.c. capacity, previously boiled.

The reason for using a culture of weak virulence to begin with was that guinea-pigs are very susceptible to tuberculosis and it was suspected, from observations already published, that should goat serum possess any antitoxic powers these would be extremely slight.

One half of the animals were inoculated subcutaneously over the abdomen with two c.cm. of normal goat serum every second day. Subsequently the temperatures were taken every day and the weights once a week.

Instead of estimating as others have done the effect of the injections by keeping the animals until they died spontaneously and taking into consideration merely the loss of weight, it was thought advisable as we were dealing with germs of such mild virulence and there was a possi-