

infection. The partial immunity will limit the infection to a small region about the site of injection of the virulent cultures.

The animals which are already tubercular, the use of the new tuberculin is to be begun with small doses; the doses are rapidly augmented in subsequent injections. If the treatment is begun at a good hour the guinea pig will recover in from five days to three weeks.

The initial dose of Dr. Koch's new preparation is $\frac{1}{500}$ of a milligramme. The commercial preparation contains 10 milligrammes of tuberculin in each cubic centimeter; it is necessary, then, to dilute the tuberculin with proper quantities of sterile physiological salt solution.

The dose of $\frac{1}{500}$ milligramme does not as a rule produce any febrile reaction; and if a reaction takes place the size of the dose must be diminished. In this character the new tuberculin is directly opposite from the old. In the original the reaction was the sign of the proper action of the serum. The injections of the new serum are given every other day. The dose is augmented so slowly that the febrile reaction will never exceed one-half of one degree (C.). If the reactive temperature goes higher the injections must be reduced. By this minute increase in the size of the dose 20 milligrammes may finally be borne without a reaction. Often the curative effect will be obtained when the size of the dose reaches 0.5 to 0.10 milligramme.

The treatment of tuberculosis with Prof. Koch's new tuberculin will only benefit when it is begun at an early and timely hour. When the symptoms of secondary infection are present the tuberculin is found to be impotent, and the streptococci will continue their work of destruction. To recognize this secondary pyogenic infection the temperature must be studied. When the fever rises above 38° (C) favorable results from the use of the remedy are exceptions.

Dr. Koch has used the tuberculin in a large number of cases of tuberculosis. The treatment brought about a certain amelioration in all cases, and in some a cure resulted. In cases of lupus, as well as in tuberculosis, the tuberculin did not produce any local reaction. In pulmonary tuberculosis a great increase of moist râles was generally noticed, while the expectoration, however, became less and less. The bacilli progressively disappeared from the sputum. Very soon after beginning the treatment the weight of the patients increased, the fever fell, the difference between the morning and the evening temperature became less and less, finally remaining normal during the twenty-four hours.