antitoxin, namely, the introduction of the toxins of the bacillus into the system of an animal until it was immune to the effects, and then using its serum as a curative agent. As has been pointed out most of the work on these lines has proved to be a failure, or at most has had a very limited meed of success. This is possibly due, at least in part, to the fact that the toxins and extracts of the tubercle bacillus used for immunizing purposes have been obtained by heat or by various chemical processes, so that they do not represent the full toxic properties of the bacillus. To obviate this objection Koch's new tuberculin (Bacillen-emulsion) was employed. Perhaps a word or two of explanation as to the nature of this substance may not be out of place at this juncture.

Koch takes a definite weight of tubercle bacilli, filters them from all culture fluid, grinds them up with two hundred parts of 1/50 normal soda solution, and then centrifugates. He then pours off the supernatant fluid, adds weak acid to the residue until only slightly alkaline, and finally dilutes with a standard weak solution of carbolic acid and saline to the extent of one to three thousand. Glycerine is also added, and the final emulsion represents five milligrammes of pulverized bacilli in every cubic centimetre. (Deutsche med. Woch. Nov. 28, 1901.) The injection of this into tuberculous persons brings about a rise of temperature of one and a half to two degrees centigrade. The dose at the first injection is 0.0025 milligramme, rapidly increased two or five-fold until the reaction appears.

To obtain convenient amounts for injection the bacillus emulsion was diluted according to Koch's directions with a standard diluting solution containing 0.8 per cent. sodium chloride and 0.5 per cent. carbolic acid. Three strong healthy goats were subjected to the injection of the bacillus emulsion in gradually increasing amounts, the whole procedure extending over seven months. The reason for spreading the injections over so long a period was that it had been found by Maragliano and others that the animals stand the treatment better and the results are more satisfactory. The injections were given subcutaneously in the neck under strictly aseptic conditions once a week until towards the end of the allotted period. Previously, however, the normal temperature for the goat was ascertained. The amount of the emulsion injected was at first .0025 milligrammes repeated for three weeks and cautiously increased until at the end of three months the goats were receiving 0.015 milligrammes. Subsequently the amount injected was doubled each week, until at the end of the seven months 15 milligrammes was reached. After the first three months also the temperature before inoculation was taken as well as afterwards twice in the twenty-four hours. The normal