

Among other matters of interest, the report also contains mention of Dr. von Ruck's efforts to produce a serum, as suggested by Professor Koch, in his paper by using Tuberculin R. and his Watery Extract for immunization. Dr. von Ruck used goats for this purpose and injected them in increasing doses, reaching 70 c.c. per single dose in the course of six months.

Serum taken from these animals failed to protect or cure guinea pigs, and finding his results entirely at variance with the claims of Dr. Fisch, he purchased serum from Dr. Fisch's laboratory and treated a number of guinea pigs, all with negative results.

These experiments are given in detail, and it does not appear that the degree of tuberculosis or its course was in any way modified by the injection of this serum; the control animals showing no greater progress in the disease than did those which were treated.

Full directions are given for the use of the Watery Extract, the beginning dose being 1-1000 of a milligramme, and this is gradually increased to 5 milligrammes. There are three solutions, No. 1, containing 1-1000 of one per cent.; No. 2, 1-10 of one per cent., and No. 100 containing 1 per cent. of the anhydrous extracts.

[There is no doubt that Dr. von Ruck deserves all the credit he claims for the production of a watery solution of the proteids of tubercle bacilli, Koch being mistaken when he claimed his Tuberculin R. to be a solution of the tubercle, after having himself determined that he could not filter through porcelain without losing the specific effect. The statistics shown by Dr. von Ruck as above are most encouraging, and we think he is very wise in refusing to treat any but practically incipient cases of this disease.—ED.]

## THE TREATMENT OF TUBERCULOSIS.

BY T. CLIFFORD ALLBUTT, M.D., LL.D., F.R.S.

DR. ALLBUTT remembers in his early days the fatal note of the "consonating rale." For, then, nearly all consumptives died. But Henry Bennett, a keen and original thinker, and himself smitten with the disease, threw away all traditional coddling and committed himself boldly to the open air. He was the practical maker of the "open-air cure." He went to Mentone and lived in his garden, and by night slept without windows. After a while he spent some part of the year in London, and found that even in that climate he could bear open windows without harm. A few years later Archibald Smith, Hermann Weber, Unger, and others discovered that consumptives could trust themselves in the open air, and that a warm climate was not necessary; that in the Andes and high Alps results as good or better than the Riviera could be attained. Then came Dr. Brehmer and Dr. Dettweiler, declaring not this