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A SIMPLE AND RAPID METHOD OF DETECTING TUBERCLE BACILLI IN FLUIDS.

BY

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Anyone who has attempted to detect tubercle bacilli in fluids, knows how wearisome and uncertain are the ordinary methods. Numerous suggestions have been made with regard to the shortening of the process of detection; some workers have employed caustic potash to dissolve out mucous and proteid materials, and have obtained fair results by decanting. Others again have employed the centrifugal machines and the hæmatocrit. In neither case do the results obtained appear to be so certain and the process so satisfactory as that here given.

Some authorities have used very complicated methods:

Ilkavitch[1] coagulates 20 ccm. of milk by dilute citric acid and dissolves the coagulum by phosphate of soda (saturated aqueous solution); then sulphuric ether and water are added, the mixture is shaken for 15 minutes, the solution is allowed to stand, and after the fat has separated the remainder of the liquid is taken and dilute acetic acid is added until the first sign of coagulation appears. It is then transferred to the centrifugal machine giving 3600 revolutions per minute and the deposit is conveyed to two slides and examined with oil immersion.

However, as a result of a series of studies in which at the suggestion of Dr. Adami, I tried various methods of separating the bacilli and gaining them from milk, I have eventually discarded one after another of the solvents of the various constituents of the milk, and have devised a method which appears to be at the same time accurate cleanly and fairly rapid. The method is briefly as follows:

Taking milk to which preferably, in order to arrest the growth of other bacteria (which are apt to hide the tubercle bacilli), 5 per cent. of glacial carbolic acid has been added, I take 30 cc. 15 cc. in two tubes, and centrifugalise in Purdy's electrical centrifuge, or even preferably in the hand centrifuge of Bausch and Lomb or Queen, for the latter appears to give easily more rapid revolutions per minute. After centrifugalising for about 15 minutes, the supernatant fluid is poured off; the precipitated debris, which contains the bacilli, is then

[1] Munchen. Med. Wochenschr., 1892, p. 5.