

dinary broth. The first generation on ordinary broth showed a tendency to agglutinate, but the reaction was much slower than in the control test. The experimental production of serum fast staphylococci suggests that the mechanism of serum fastness may be due to a lack of wetting. This would then explain why the tubercle bacillus which is so rich in fat-like substances gives inconstant serum reactions.

### 170 (2130)

#### The precipitin test in the diagnosis of tuberculosis.

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The precipitin test has been found to give reliable results in the diagnosis of active tuberculosis. The antigen is prepared by disrupting tubercle bacilli, preferable an old culture, with carbon dioxide by the method described by Larson, Hartzell and Diehl.<sup>1</sup> The disrupted bacteria are filtered through paper in order to remove the shells. The clear filtrate is layered over the serum to be tested, and the tubes incubated for a period up to two hours. A definite cloudy ring at the interface of the two fluids indicates a positive reaction. The cloud often appears within the first five minutes. In the far advanced cases, however, the reaction develops more slowly, but is usually very definite. Upon standing several hours the ring gradually becomes dispersed.

Thus far the blood serum of 190 cases have been examined. Of these, 100 were patients in the University Hospital and Dispensary, but not in the tubercular clinics. Ninety cases, representing all stages of tuberculosis, were from a local sanatorium. From the 100 cases not suspected of having tuberculosis, eleven positive reactions were obtained. Six of these have since been

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<sup>1</sup> *Jour. Inf. Dis.*, 1918, xxii, 271.

found to have evidence of tuberculosis. One died from hypertension, and at autopsy an active lesion was found in the apex of the right lung.

An interesting case was that of a newborn, whose mother was a far advanced case, giving a negative Von Pirquet but a positive precipitin test. The blood of the newborn gave a heavy precipitin reaction.

Of the 90 sanatorium cases 85 were positive and 5 negative. The 5 negative cases were either "healed" or "arrested."

We have found that the acid fast actinomycetes, as *A. gypsoïdes* and *A. asteroides*, make a good antigens as the tubercle bacillus. On the other hand the non-acid fast actinomycetes fail to react with tubercular serums. This is in agreement with the findings of Henrici and Gardner<sup>2</sup> and Nelson and Renrici.<sup>3</sup>

The glycerine broth filtrate of the tubercle bacilli as of the actinomycetes fails to give this reaction.

## 171 (2131)

### The determination of iodine in iodine metabolism.

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The organic material for iodine analysis is dried, mixed with and covered with CaO to render it alkaline and reduce the rate of combustion, and burned in pure oxygen in a large combustion tube with the end narrowed and bent downward for about 50 cm. The first third of this narrowed portion is covered with a thin layer of asbestos fibers to protect it from a lead coil through which cold water runs. The middle third is water-jacketed. The lower third dips into an absorbing apparatus filled with NaOH solution. The greater the amount of CaO mixed with the un-

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<sup>2</sup> *Jour. Inf. Dis.*, 1921, xxviii, 237-248.

<sup>3</sup> *Proc. Soc. Exp. Biol. and Med.*, 1921, xix, 351-352.