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Original Communications.

TUBERCLE BACILLI.

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The presence of the bacillus of tuberculosis is of such grave importance that any certain method of demonstrating its presence or absence, as the case may be, in the sputum, so that even one unaccustomed to frequent use of microscope can readily see it when present, is worthy of consideration. Koch's method is now almost entirely given up: it could be seen only with the high powers and special illumination. To see it with a Hartnack No. VII., or even with his No. 9 immersion frequently required a stretch of imagination.

Many experienced microscopists, some of them extensive workers in the wide field of Bacteria, have publicly expressed their inability to discover them when proceeding according to the methods suggested by Koch. Some of these, owing to improved methods, have recanted. Ehrlich, a pupil of Koch, gave the key to these in suggesting the addition of pure aniline as a base, and the use of an acid instead of alkali as a part of the process of preparation. Koch has now adopted Ehrlich's method. Heneage Gibbes, in the *Lancet* of August 5th last, suggests some slight improvements in Ehrlich's methods.

In a late number of the *Berliner Klinische Wochenschrift* Dr. Balmer and Professor Fraentzel slightly modify Ehrlich's methods. First of all they suggest that the cover-glass should be only 0.10 to 0.12 millimetre thick. A small portion of sputum is placed on a cover-glass; this is spread over by drawing it across another cover-glass until an even layer is obtained; they are now permitted to dry, and then slowly passed three times through the flame of a Bunsen burner. One gramme of fuchsin is dissolved in 50 of aniline water, freshly prepared; the cover-glasses are permitted to float on this,—sputum downwards,—for twenty-four hours. They are now washed in distilled water, and subsequently placed for about half a minute in diluted nitric acid (one part acid to three distilled water). This should completely remove the coloring matter (the bacilli if present retain this color). They are again washed with distilled water, and then placed for about half a minute in a concentrated solution of methylene blue, again washed in distilled water, and placed on filter paper until dry. Should they not dry rapidly they can be passed once or twice through the flame of a Bunsen's burner, and be subsequently mounted in a drop of Canada balsam.

We quite agree with these observers as to the necessity of placing the preparation twenty-four hours in coloring matter as first recommended by Koch. The results of our investigation justify us in saying that placing the pre-