

State Board of Health, in which his conclusions directly militate with those of Rodet and Roux, first quoted. He has been engaged on various modes of differentiation of the typhoid bacillus. He finds that it is quite possible to distinguish this organism from *B. coli* but regards the potato test as worthless for this purpose. The non-coagulation of sterilized milk; the non-production or very slight formation of acid; and the turbidity produced, without evolution of gas, when the bacilli are grown in Smith's solution, are regarded as being perfectly diagnostic. Smith's solution contains 2 per cent. glucose, 1 per cent. peptone, and five tenths of one per cent. of common salt, rendered slightly alkaline with soda, as is ordinary nutrient gelatine.

New Method of Fixing and Staining.—The ordinary way of fixing sputum, blood, mucus, pus, etc., on cover glasses, by direct exposure to heat, as in passing them several times through flame, is always more or less risky, and, even when carefully performed, is liable to alter, to a greater or less extent, the form or size of micro-organisms. Dr. J. H. Byron, who recently read a paper on the subject, at a meeting of the New York Pathological Society, obviates the use of heat by substituting bi-chloride of mercury, which is made a constituent of one of the stains. Cover glasses are smeared in the usual way, and, without being allowed to dry, are at once put into an alcoholic solution, containing one per cent. each of eosin and bi-chloride. An immersion for one minute will be sufficient, when the cover should be carefully washed, and then put into dilute aniline-water gentian violet, followed by absolute alcohol, xylol, and balsam. In case of tissue sections the order of immersion should be alcohol, gentian violet, eosin, alcohol, xylol, balsam. Blood, by the first method, is said to give very good results. Red corpuscles are purplish-red, granules and plates red, and micro-organisms deep blue. We shall try this method and report hereafter.

Diagnostic Cultivation of the Diphtheria Bacillus.—The difficulty of obtaining and sterilizing a supply of blood serum render the method of Roux and Yersin inapplicable for the occasional requirements of ordinary practitioners. The plan recommended by Dr. Sahkaroff is not open to these objections. The shell of a hard-boiled egg is partly removed, so as to expose the albumen,

and slices of a size suitable for insertion in a six inch test-tube are removed by a knife that has been previously sterilized by heat. The sterilization of the test-tube is accomplished by putting into it about two-thirds of an inch of water, plugging with cotton wool, boiling away about half the water, and, when cool, emptying quickly. A slice of egg is then inserted and charged by contact with a flattened platinum wire, with which a little of the membrane has been scraped. The plug of cotton is then re-inserted, and the tube set aside, at a temperature of 95° to 100° F. After twenty-four hours' incubation the albumen will show greyish growths of the bacillus, if present. Identification may then be accomplished by making a cover glass preparation, and staining with Loeffler's blue.

Relative Power of Germicides.—In the results of some experiments recently reported to the Société de Biologie, Paris, M.M. Christmas and Respaut (*Mon. de la Pharm.*), classed benzoic acid and chloride of zinc with phenol. A one per cent. aqueous solution of any one of these was sufficient to destroy in one minute the vitality of the bacilli of diphtheria, or typhoid.

Selected Articles.

EARLY SYMPTOMS OF MENTAL DISEASE AND THE PREVENTION OF INSANITY.

Mental disease is not quite so familiar a phrase as insanity, but I wish to make use of the former because it more faithfully covers the field to which I more especially desire to direct your attention. My preference for the term "mental disease" must not induce you to conclude that I necessarily always mean insanity. It may be perfectly legitimate and quite correct to speak of a case as one of mental disease without inferring or suggesting that it is also one of insanity. There is a wide gulf between the first symptoms of mental disease and actual insanity, and I hope I may not unprofitably ask you to consider a group of symptoms, or stage of mental disease, rarely seen except by the general practitioner.

As Dr. Savage says, "every perversion of nervous action, every unusual display of intellectual or moral force, is not to be regarded as a case requiring the interposition of the physician whose chief care has been for the insane." The general practitioner has, "more than most men,