

mixture again heated to boiling. The test should be carried out without any pause. An opalescence frequently follows even in the normal, but the reaction is considered positive only when peculiar light greyish flocculi occur. This should come about within half an hour, and often does within a couple of minutes. Noguchi holds that the reaction is given only by globulin, and especially by the changed form of globulin present in syphilitic and metasyphilitic cases.

Before relating my personal experiences with these and other chemical tests, I wish briefly to indicate the theoretic interest that the subject has recently acquired; for fuller information on the matter the reader is referred to a review I have recently published elsewhere. The substances present in the blood-serum of syphilitics, and in the serum and cerebro-spinal fluid of general paralytics, and on which the Wassermann reaction depends, may provisionally be called anti-bodies, though it is now certain that even if they owe their origin to the presence of syphilis, they are not specific anti-bodies in the ordinary sense of the term. They were thought by Levaditi and Yamanouchi to be of a lipoid nature, but more recently they have been demonstrated beyond doubt to be proteids, and, indeed, globulins. Further, thanks to the very careful work of Elias, Neubauer, Porges and Salomon, Gross and Volk, and especially of Noguchi, we now know that the proteid in question is a euglobulin. They possess in a high degree the capacity to bind lecithin, and on their proclivity to produce a flocculent precipitate in lecithin emulsion depends the well-known Porges-Meier reaction for syphilis. Levaditi and Yamanouchi, Bauer, and Gross and Volk have proved that they exist in small quantities in normal blood-serum. In other words, *the Wassermann reaction depends on an increase of some special form of euglobulin that is normally present in the serum.* The reaction is defined by Elias, Neubauer, Porges and Salomon as an interaction, of the nature of a precipitate formation, between certain hydrophile colloids, notably lecithin and a changed