

serum of a paralytic. This observation has been received with much scepticism, and Plaut, who is, perhaps, the most reliable authority on the subject, says that this precipitate is just as common with normal serum. In 1908, Porges and Meier showed that the cerebro-spinal fluid of paralytics causes a heavy precipitate when added to the lecithin emulsion. This is of interest when one remembers the important part played by lecithin in the Wassermann reaction.

The theoretic interest that the increase in globulin has resides in the fact that most authorities agree in attributing to it the origin of the substance active in the Wassermann reaction. The trend of opinion is towards regarding this as resembling choline and nucleo-proteid in being *katabolic* products produced in the course of the disease. The relation between globulin and the substance that gives the Wassermann reaction becomes, therefore, a matter of great interest, and the phenomenon of globulin increase receives an accession of both practical and theoretical importance from these considerations.

Now, the experience of the past eight years has amply confirmed the fact of globulin increase in general paralysis and its very great value in diagnosis, and the object of the present communication is to consider two new methods for the precise observation of this increase, together with the results of our experience with these methods. The first of them was described some five months ago by Noguchi, of New York; the second has not hitherto been described.

There are, of course, several methods in general use for the separation of globulin from albumin, but all of these leave much to be desired in reliability and delicacy. For the cerebro-spinal fluid the following are those that have been most employed. Guillain recommends that the fluid be saturated with magnesium sulphate and then heated; a precipitate indicates the presence of globulin. Nissl, Henkel, Nonne, and Apelt, who have all published extensive monographs on this subject, add to the fluid an equal quantity of a saturated ammonium sulphate solution. Cimbald adds a saturated zinc sulphate solution. In