

as that done on the simpler observations above-mentioned belongs to the French school. The amount of research that has been carried out on the Wassermann reaction may be indicated by the fact that within the past couple of years nearly three hundred papers, many of which are of the highest excellence, have appeared, incorporating conclusions drawn from the examination of several thousand cases.† The essential point of Wassermann's discovery was that the serum of a syphilitic, when mixed with an infusion made from syphilitic material, has the power of binding the "complement" present in normal blood serum. Complement is the substance which acts on various foreign substances, called "antigens," when in the presence of the corresponding "anti-bodies." For instance, normal complement-containing blood-serum will dissolve the red blood cells of another animal provided that an anti-body corresponding to those red blood cells is present. This anti-body has to be obtained by previously injecting the red blood cells of the second animal into the circulation of the first, this animal responding to the injection by pouring out anti-body into its blood stream. It is important to remember that the complement is a non-specific substance which can therefore act on a very large number of different foreign substances, or antigens, while the anti-body is a specific substance which can enable the complement to act only on the corresponding antigen in response to which it was formed. We can thus test whether the complement of a blood serum is bound or not by ascertaining whether it is or is not free to take part in a subsequent reaction. In the test in question, for instance, if the mixture of syphilitic material, which in this case constitutes the antigen, and the blood serum have bound the complement, then this is no longer free to dissolve any red blood corpuscles

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†Those who wish to pursue the subject may be referred to a detailed review of it I have recently published in the *American Journal of Insanity*, April, 1909. A paper on the "Proteid Content of the Cerebro-spinal Fluid in General Paralysis," published in the *Review of Neurology and Psychiatry*, June, 1909, may also be mentioned.