

Selected Articles.

SERUM THERAPY.

Professor Bouchard, in an inaugural address given to the Second French Congress of Medicine, held at Bordeaux on August 8th, gave an exceedingly interesting sketch of the treatment of specific diseases by means of bacteria or their products, claiming in passing that his experiments of May 30th, 1890, published in the *Comptes Rendus de l'Académie des Sciences* on October 26th of the following year, wherein he pointed out that a curative power rested in the serum rather than in the leucocytes of the blood, was the first published contribution on serum therapeutics, although Hankin in his paper on defensive proteids has practically the same idea.

Bouchard insists that when an infectious disease is treated by injection of the bactericidal serum of a vaccinated animal, we are not to apply the term bacterio-therapeutics; we are using an antiseptic substance in which, however, there is this peculiarity, that the antiseptic substance has been manufactured not by the chemist but by the vaccinated animal. He points out that we do not act upon the tissues, etc., of the sick person, but rather on the attacking microbe. In the course of infective diseases the serum of vaccinated animals acquires not a bactericidal power, which exists to a certain extent in serum of all animals, but distinct antitoxic properties, which properties have been conferred by the action of the cells of the vaccinated animal whose nutrition and secretion have been profoundly and more or less permanently modified by the temporary action upon them of vaccinal bacterial substances.

Having stated his own position as regards the history of the subject, Professor Bouchard points out that Behring and Kitasato in December, 1890, showed that antitoxic serum acts in doses so minute that we have an additional argument that it does not exert a bactericidal action. Antitoxic serum does not kill the microbes, nor does it interfere with their multiplication or even with their production of poison, nor is it yet proved that it can destroy or neutralize these poisons; rather it aids the tissue cells to resist the action of these poisons, many of which appear to act by paralyzing the ordinary defences against bacterial invasion.

The antitoxic action does not belong to a substance which is found in the blood nor to a particular chemical condition of the blood plasma. But the blood, or its plasma, or some of the constituent substances of this plasma may acquire the property of setting