

that facts are steadily accumulating to prove the great value of Wright and Douglas' discovery. Treatment by the inoculation of bacterial vaccines has been applied to tuberculosis of the skin, bones, joints and lungs: to furunculosis, sycosis: to septicæmia, and malignant endocarditis: to typhoid fever: to pneumonia: to empyema: to cholecystitis: and to Malta fever. The results reported are in general favourable. It seems clear that in the treatment by the injection of bacterial vaccines by the method of Wright and Douglas we have a decided addition to therapeutics and a valuable contribution towards the explanation of immunity in at least certain cases. The opsonic theory may be said to have come to stay and is at last established on a thoroughly scientific and solid substratum of fact. It may be regarded as settled that opsonins are immune bodies contained in serum, absolutely distinct from lysins, agglutinins, precipitins, and antitoxins. They act by sensitizing, or "opsonizing," as it is called, the bacteria, and not by stimulating the activity of the leucocytes. Whether they are specific or not has not yet been satisfactorily determined. We know now, also, that there are opsonizing substances for other bodies besides bacteria (Hektoen. Jour. Amer. Med. Assoc., May 12, 1906. Middleton-Goldsmith Lecture), such as blastomycetes, trypanosomes, and red blood-corpuscles. Hektoen has found, for example, that the serum of convalescents from various infective disease, such as typhoid, pneumonia, and scarlet fever contains opsonins for human erythrocytes, and Eason (Edin. Med. Jour., 1906, Vol. XIX, N.S., p. 43) has described phagocytosis of red corpuscles under the influence of serum from patients with paroxysmal hæmoglobinuria. These observations throw light on the question of blood destruction in many infective conditions and on post-febrile anæmia.

Tuberculosis.

Probably everyone is now familiar with Koch's famous presentation on the subject of infection in tuberculosis. In view of the statistics of the German Hospitals he concluded that primary intestinal tuberculosis was so rare as to be practically negligible and, in addition, went the length of asserting that tubercle bacilli of bovine origin were innocuous to human beings. A storm of protest followed upon the publication of his conclusions and immediate steps were taken in various countries to test the accuracy of his statements, investigations which, from the nature of the case, broadened themselves into the determination of the comparative virulence of tubercle bacilli of various origins for different races of animals, and the paths which infection usually took. The investigations in England of Nathan Raw, among others,