

temperatures are less sharply marked and less easy to interpret than one would desire in important standards for general use. There is always danger that error or misunderstanding may enter into their determination to such an extent as to outweigh the gain in convenience and in chemical purity. Better determinations of the melting-points of pure salts are certainly greatly needed, but to substitute these for the standard metals would seem to be a somewhat hazardous step.

The book contains an excellent account of the application of the laws of radiation to pyrometric measurement, together with most useful directions for the practical handling of the various forms of apparatus required, their sensitiveness and their limitations.

ARTHUR L. DAY.

**MANUAL OF SERUM DIAGNOSIS.** BY ROSTOSKI, TRANSLATED BY CHARLES BALDUAN, M.D. 12mo. vi + 86 pp. New York : John Wiley and Sons. Price, \$1.00.

There are two forms of pathogenic micro-organisms—one causing disease by producing specific toxins, the other affecting the health of the organism by the direct action of the germ on the surrounding tissue. The micro-organisms of the second group exercise a deleterious effect on the organism also in another manner. Although they do not secrete a toxin, their body substance contains one. This substance is liberated from the micro-organism only after their death and disintegration.

In the course of a bacterial disease the animal body develops protective substances. If the micro-organism causing the disease belongs to the first group, the substance is of the nature of an antitoxin, that means, it aims to neutralize chemically the toxin. In the second group of diseases the substances are lysins and agglutinins, acting as bactericidal substances.

The bactericidal and agglutinating power of the serum of a diseased or immunized animal or individual can be demonstrated also in a test-tube or under the microscope.

This property of the serum has been made use of for diagnostic purposes; the presence of agglutinating, or bactericidal power for a given micro-organism in the serum of an individual generally indicates the present or past infection with the same micro-organism.

This test was found most serviceable in the diagnosis of typhoid

fever, and is known as the Widal-Grüber test. The book of Rostowski contains the details of the test, and a critical review of the value and of the limitations of its application. Special attention is given to the relation of typhoid serum to paratyphoid micro-organisms, and it is justly urged by the author that in all cases of suspected typhoid the serum of the patient should be tested not only with the cultures of typhoid, but also with those of paratyphoid.

The technique of the test has recently been improved in such a manner that living micro-organisms are not longer needed for it. Thus it can be performed by every physician to whom the facilities of a laboratory are not accessible.

Also the details of these improved methods are given in the book.

Attempts were also made to apply the test for early diagnosis in tuberculosis. However, the nature of the micro-organism is so different from any other one that at present very few authors recommend the application of the agglutination test for this purpose.

In the course of plague, cholera, dysentery, paradysentery, glanders and many other diseases, the serum does develop bactericidal or agglutinating properties. Such sera have found application for the identification of the individual micro-organism, but thus far are of little value for clinical purposes.

In a special chapter the mechanism precipitating formation is described, and the forensic test of human blood is given in great detail.

In addition to the translation of the German text, Dr. Balduan has added Wilson's study of Grüber-Widal's reaction, containing a set of drawings illustrating the microscopical appearance of the reaction.

P. A. LEVENE.

THE TEXTILE FIBRES: THEIR PHYSICAL, MICROSCOPICAL, AND CHEMICAL PROPERTIES. BY J. MERRITT MATTHEWS, PH.D., Head of Chemical and Dyeing Department, Philadelphia Textile School. New York; John Wiley and Sons. 8vo. vii + 288 pages, 69 figures. Cloth. Price, \$3.50.

The publication of this book may be looked upon as an event worthy of record in the annals of textile literature. In our textile libraries will be found many volumes contributed from Germany,