

## BOOK NOTICES AND REVIEWS.

*Lehrbuch Der Enzyme.* Prof. Carl Oppenheimer and Dr. Richard Kuhn. Publisher, George Thieme, Leipzig, 1927. 660 pages with eighteen illustrations.

This work on a very new important subject is a good example of German thoroughness in literature and science. The volume of some six hundred and sixty pages is, as the author Prof. Carl Oppenheimer states in the preface, intended as a textbook for doctors and students and is really an abridged form of the larger work on ferments published by the same author in several volumes. Because the work is intended more as a textbook the treatment of the subject has been condensed and literary citations have been given only where they were absolutely necessary. For further information the author refers the reader to his encyclopedic work. The great strides in the scientific development of the study of ferments and during the past decade render a work such as this very desirable especially so as the present one is very up-to-date and contains the latest information on the subject. While the greater part of the book has been written by Oppenheimer he has had the collaboration in the physical-chemical portion of it of a well-known specialist Dr. Richard Kuhn of the Zürich Polytechnicum. The work is divided into a General part and a Special part. In the General Section the general chemistry of enzymes is discussed, and their nature and classification, specificity are described. Then a study of various factors which influence ferment action is taken up. The behavior of ferments as antigens receives attention, and activators and paralyzers of ferments are discussed in full. The fourth chapter of this general section deals with the physical chemistry and kinetics of enzymes and ferments. Under this heading the physical chemistry and nature of the ferments is considered, the dynamics underlying their actions are taken up in detail and various theories concerning ferment action are given. The fifth chapter of the general section deals with the biology of the ferments and their occurrence in nature, fermentation process in the body, and the fate of enzymes in living organism. The importance and significance in living processes take up a separate chapter of some thirty pages.

In the special section of the book a more detailed discussion of different ferments is

taken up. A grand division is made into Hydrolases and Desmolases. The latter term refers to those ferments and enzymes which play an important rôle, not simply in the breaking down process, but in producing more intricate chemical reactions through oxidation and reduction, etc., as for instance in various metabolic processes. Under the first heading of Hydrolases are considered the Esterases (Zöolipases, Phytolipases, Tannases, Phosphatases, Chlorophyllases and Sulfatases). Then the Carbohydrases and Polyases including a study of sugars and Carbohydrates. Then follows a chapter on Nucleases and another on Amidases, and several chapters on the Proteases. Under the grand heading of Desmolases are considered Zymases and oxidation and reduction systems, Katalases and more complicated biological phenomena dealing with the action of insulin, etc. The work cannot be spoken of as an ordinary textbook, inasmuch as it is a far too complicated and abstruse for ordinary students and even physicians or chemists. It is, however, an invaluable book of reference to anyone whose work touches on the action of ferments or enzymes.

D. I. M.

*Practical Physiological Chemistry.* Philip B. Hawk and Olga Bergeim. Publisher, P. Blakiston's Son & Co. 931 pages.

This ninth edition of the well-known work is one of the most readable books on Physiological Chemistry in the English language. The combination of the text together with practical exercises in Physiological Chemistry render it extremely useful for students and all those interested in biochemistry. This new edition contains seven new chapters dealing with some of the newer phases of Physiological Chemistry. One of these is a general discussion of the physical chemistry of true and Colloidal Solutions. Another is on Absorption, a third on Putrefaction and Detoxication, a fourth is on the Chemistry of the Blood and Tissue Analysis. A fifth is on Respiratory Metabolism and Neutrality Regulation, and two other chapters deal with Endocrine Organs and Energy Metabolism respectively. The whole book is very much up-to-date and deals with, not only, the regular routine procedures of medical physiological laboratories but also with biochemistry in general. Thus for instance there is a special discussion of Photosynthesis. Vitamins and Vitamin Assays have re-