

ject-matter in eleven chapters, of which the titles are as follows: Historical—The Measurement of Light Quantities—The Energetics of Radiation—Economic and Energetic Relations of Actual Light Sources—The Absorption of Light—Statics and Kinetics of Photo-chemical Change—Dynamics of Photo-chemical Change—Special Photo-chemistry—Radiant Matter and Photo-chemical Change—The Genesis of Light in Chemical Change—Organic Photosynthesis.

The first four chapters do not carry us much beyond photo-physics, but give a very satisfactory résumé of those divisions of optical physics which are of primary importance in photo-chemistry. Beginning with Chapter V., the subject-matter becomes increasingly chemical in character, and the book ends with an excellent account of the more recent investigations into the character of the chlorophyll reactions.

To the reviewer the author's method of treatment seems most commendable. Such principles as may be considered thoroughly established are treated with scientific conciseness and brevity, not in general, however, without the presentation of sufficient numerical data for illustration. In dealing with matters which are still in the formative stage, a condition true of so much of photo-chemistry, the author does not dogmatize, but usually leaves the reader with quite the impression that the state of knowledge concerning the subject warrants. This makes the book valuable not only for the knowledge which it imparts, but also for its stimulus to critical thinking.

The book is made up quite directly from the original literature of the subject and is amply provided with citations and references. The author's personality shows itself not only in the thoroughness with which the material has been digested and assimilated, and later organized for the purpose of clear presentation, but also in not infrequent elucidating discussions and in occasional flashes of imaginative explanation. The reviewer's impression is that we have here the work of one thoroughly imbued with his subject, and at the same time

entirely competent to handle it. The book should prove valuable not only to those desiring admittance to the charming mysteries of photo-chemistry, but should also be welcome as an additional weapon in the armory of the initiated.

S. W. YOUNG

STANFORD UNIVERSITY

*The Hydrogenation of Oils; Catalysts and Catalysis and the Generation of Hydrogen.*

By CARLTON ELLIS. New York, D. Van Nostrand Co., 1914. Price \$4.00 net.

The book considers very fully the methods of hydrogenation, the various catalysts, both the base and rare metals, and the mechanism of hydrogen addition. Besides this, the subjects of the analytical constants of the oils and their uses both for culinary purposes and soap making are thoroughly dealt with. About one third of the book is devoted to the methods for the generation of hydrogen, which is of prime importance: these include water gas, decomposition of hydrocarbons, steam on heated metals, acids on metals, the electrolysis of water, and the safety devices for handling the gas.

A feature of the book is the very complete citation of references and patents from the three principal languages.

The volume satisfactorily fills a decided want and may be unreservedly recommended to all interested.

A. H. GILL

*A Text-book of Medical Entomology.* By WALTER SCOTT PATTON, M.B. (Edin.), I.M.S., King Institute of Preventive Medicine, Madras, and FRANCIS WILLIAM CRAGG, M.D. (Edin.), I.M.S., Central Research Institute, Kasauli, Punjab. Christian Literature Society for India, London, Madras and Calcutta. 1913. Pp. xxxiv + 768. 84 pls. £1-1-0.

The protozoologist, parasitologist or physician who has occasion to deal with the arthropodan carriers of diseases produced by bacteria, Protozoa, or nematodes, has long been hampered in his investigation by reason of