

to meet given requirements could scarcely have been improved.

The older books on wireless telegraphy have dealt with measurements of high-frequency resistance, capacity, and inductance, but Mr. Moullin has much to say that is new. In the sections on the measurement of frequency and of signal intensity all the newer methods are given, including an account of Mr. Dye's very important work on the multi-vibrateur. In view of the importance of the use of quartz crystals as frequency controllers in a wireless spectrum already crowded, it is unfortunate that the work of the same author on this subject was published too late to be included.

There is no doubt that Mr. Moullin's book will be widely read by wireless engineers, but we must very reluctantly point out that the price of the volume is too high for it to be used as a text-book in university classes and thus assist in missionary work among the younger generation of physicists.

E. V. A.

Our Bookshelf.

Handbuch der biologischen Arbeitsmethoden. Herausgegeben von Prof. Dr. Emil Abderhalden. Lieferung 204. Abt. 9: *Methoden zur Erforschung der Leistungen des tierischen Organismus*, Teil 1, Hälfte 2, Heft 2. Spezielle Methoden: *Tierhaltung und Tierzüchtung*. Pp. 215 + 484. (Berlin and Wien: Urban und Schwarzenberg, 1926.) 12-30 gold marks.

NOTICES of successive fascicules of this comprehensive work edited by Prof. Abderhalden have frequently appeared in our columns. The present instalment is concerned with the biology of insects and the technique of breeding and rearing those animals for purposes of scientific observation. Several groups have already been dealt with in Lieferung 182, and in the part before us most of the larger orders are considered.

Dr. C. Börner discusses the Homoptera with special reference to the aphides. His contribution includes a useful list of numerous members of the latter group in different parts of the world, with their known primary and secondary hosts. This is followed by a section dealing with the transmission of mosaic and other plant diseases through the agency of various Homoptera. The Lepidoptera are dealt with by Dr. E. Fischer, whose account is divided into two parts. The first is concerned with methods of collecting, and is followed by a larger section on the technique of rearing, including pairing, counteracting disease, and conducting experiments under varying conditions of heat and cold.

Dr. F. Heikertinger contributes the chapters on Neuroptera, Trichoptera, Mecoptera, Coleoptera, and Diptera. The accounts of the last two orders mentioned are in considerable detail, each family

being considered separately. The concluding part is on Hymenoptera, by Dr. J. Fahringer. This is more curtailed than the preceding sections, and we think might have been expanded to advantage considering the specialisation of technique often required, especially with regard to the parasitic members of the order.

A. D. I.

Chemistry and Recent Progress in Medicine. By Prof. Julius Stieglitz. (The Johns Hopkins University School of Medicine, The Charles E. Dohme Memorial Lectureship, Second Course, 1924.) Pp. viii + 62. (Baltimore, Md.: Williams and Wilkins Co.; London: Baillière, Tindall and Cox, 1926.) 7s. net.

THE subject matter of this little volume is indicated by its title and does not follow any very novel path. The work referred to is mainly trans-Atlantic and its presentation suffers somewhat from the fact that more than a year has elapsed between the delivery of the lectures and their publication. About one-third of the book is devoted to the subject of oxidation, in which the author develops the theory that oxidation is a loss of one or more electrons, and reduction, correspondingly, their gain, by atoms or ions of the molecules taking part in the reaction; in this connexion reference is made to glutathione.

Among other applications of chemical or physico-chemical principles to medical problems to which reference is made, are the conditions necessary for the deposition of calcium phosphate in bone and the study of blood as a physico-chemical system. In the earlier part of the book the author reviews the progress made in preparing synthetic drugs for therapeutic purposes and in isolating the active principles of the internal secretory glands of the body. Among the substances mentioned were noticed ethylene as an anaesthetic, certain of the arsenical derivatives and dyes used clinically, the secretions of the pancreas, pituitary gland, and ovary, and the isolation of purified principles from antibacterial sera.

Heredity. By Prof. A. Franklin Shull. (McGraw-Hill Publications in the Zoological Sciences.) Pp. xi + 287. (New York: McGraw-Hill Book Co., Inc.; London: McGraw-Hill Publishing Co., Ltd., 1926.) 15s. net.

THE author, who is professor of zoology in the University of Michigan, states in his preface that this volume represents a course of lectures delivered for several years to large classes of students who were admitted "without prerequisite." Doubtless for this reason the presentation of the subject matter is more or less popular, and in consequence somewhat dogmatic and superficial. Besides the phenomena of heredity proper, it deals with such topics as problems of population, immigration, and eugenics. Though by no means a poor book, it is rather mediocre and lacking in distinction. Probably it is better adapted to the audience for which it was planned than to an English one, but if it should help to stimulate interest in such matters it will have served a good purpose.