

NEW BOOKS.

ELEMENTARY ELECTRICITY AND MAGNETISM. By DUGALD C. JACKSON, E.E., Prof. of Electrical Engineering, University of Wisconsin, and J. P. JACKSON, M.E., Prof. Electrical Engineering, Penna. State College. The Macmillan Company.

This volume will be appreciated by all persons who wish to acquire some knowledge of the subjects it presents. While the authors have written in an elementary way, every topic is as scientifically and exhaustively discussed as one would expect from an expert. In these days when electricity is applied so extensively, and when many employ it without adequate previous training as to its origin, its control, measurement, etc., the present volume comes as a reliable and trusty handbook. To chemists, who have not enjoyed a full training in physics, it cannot fail to recommend itself. It is well written and well illustrated.

EDGAR F. SMITH.

ENZYMES AND THEIR APPLICATION. By DR. JEAN EFFRONT, translated by S. C. PRESCOTT. Published by John Wiley & Sons, New York.

The interest in enzymes is growing very rapidly. The sphere of their application is largely increased both in theoretical and industrial chemistry. Biology is probably the science that has profited most from the study of enzymes, and many problems that were in darkness for decades lose their mysteriousness in the light of the new discoveries of certain functions of enzymes.

But the results of all the new investigations were never summed up in a systematic, brief and popular form. Prof. Effront's book supplied that gap in the chemical literature, and Mr. Prescott's translation of the work under the title "Enzymes and their Application" will be welcomed by all interested in the subject.

The present volume deals chiefly with the enzymes of the carbohydrates, and briefly with the oxidases. In the following volume the proteolytic enzymes and toxins will be discussed.

The book being a summary of a course of lectures delivered at the Institute of Fermentation at the University of Brussels, it naturally has a more or less elementary character, and cannot be regarded as a reference or text-book. But all the greater is its value for one who seeks a general knowledge on the subject both from theoretical and practical standpoints. The theoretical problems are discussed in a very clear and comprehensive way. The

introductory chapter on the synthetic and analytic work of the living cell is perhaps a little too brief, but the question of the "Manner of Action of Diastase" is discussed exhaustively in the light of the recent researches in organic chemistry. The author criticises the theory that enzymes are not a substance but a property, and adduces all the evidence for the theory of the chemical nature of the action of enzymes.

The question of the individuality of enzymes the author answers in the affirmative.

The mode of preparation of the different individual enzymes, and the favorable and unfavorable condition for their action is discussed in considerable detail, and sufficient room is given to the theoretical explanation of the experimental and practical findings. It seems, however, that the reversibility of the action of ferments is omitted in all the theoretical considerations of the author, and yet they could explain a good many facts for the explanation of which the author resorts to much more complicated views.

The chapters on industrial application of the enzymes read as interestingly as the theoretical discussions, and the book will undoubtedly be an inspiration to a good many workers in the line of biological chemistry.

The fact that the author verified most of the experimental data of other investigators mentioned in the book makes the book all the more valuable.

Mr. Prescott deserves much credit for the good translation of the book.

P. A. LEVENE.

REPRINTS OF SCIENCE CLASSICS NO. 1. THE ANALYSIS OF AIR AND WATER, being selections from LAVOISIER'S ELEMENTARY TREATISE OF CHEMISTRY. Translated and annotated by C. E. LINEBARGER. 1902. Ravenswood, Chicago, Ill. The School Science Press. Double number, pp. 31. Price, 10 cents.

The purpose of the little pamphlet before us is to place in the hands of pupils of high schools and colleges the exceedingly beautiful and clear account which Lavoisier gives of those experiments which first laid a secure foundation for our present knowledge of air and water. Dr. Linebarger's idea is a most happy one. It is difficult to think of anything better than this little booklet for riveting the attention and awakening the interest of beginners in scientific study. It is well worthy of perusal by older chemists