precedes that on ethylenic compounds. The book is too well and favorably known to require further extended comment.

MARSTON TAYLOR BOGERT.

A Text-book of Experimental Chemistry (with Descriptive Notes). For Students of General Inorganic Chemistry. By EDWIN LEE, Professor of Chemistry in Allegheny College. With 57 illustrations. Philadelphia: P. Blakiston's Sons & Co. 1908. pp i–xv + 433. Price, $1.50 *net*.

The purpose and scope of this book are set forth in the preface as follows: "It grew originally out of a personal demand for a text-book which would embody: (*a*) a clear, accurate, and comprehensive presentation of the fundamentals of the science; (*b*) specific directions for laboratory work, coupled with such questions as lead the student to observe, compare, and generalize, and would therefore provide a method for the scientific development of the principles under discussion; (*c*) a sufficient amount of discussion and application of the principles involved in the experiments to foster the interest and to direct the observations that energy may not be spent indiscriminately; and (*d*) those physico-chemical generalizations which are essential to the explanation of much of the phenomena of inorganic chemistry. This book represents an endeavor to meet these requirements. It is not intended that it shall take the place of a large descriptive work or the instruction of the teacher; on the contrary, it is designed to provide, primarily, an experimental course in general chemistry, and by the use of 'descriptive notes' and questions *vitally relate* it to the lecture-room work."

The author has succeeded in writing a book which is unlike any other experimental chemistry with which the reviewer is acquainted. While a large number of experiments, which in the main are well chosen, are included, the descriptive notes, so called, appear to be the chief and unusual feature of the book. These are more than notes. They are lengthy discussions of theory and rather full descriptive accounts of elements and compounds, appropriate to a text-book of general chemistry. Separate chapters are devoted to fundamental concepts; energetics of chemistry; science, its methods of development, classification; laws and chemical equivalents; chemical equilibrium, reversible reactions, mass law, dissociation; and classification of the elements. Great emphasis is put on modern physical chemistry. Fifty pages are given up to a consideration of solutions, which includes an account of the historical development of the theory of electrolytic dissociation. The beginner is introduced to such subjects as the probable source of the energy of solutions, association in solution, LeChatelier's theorem, ionic equilibrium, colloids, osmotic pressure, critical solution temperature, law of distribution, Raoult's law, calculations of molecular weights from freezing-point determinations,

solution tension, and single potential. Electrochemistry is discussed in some detail.

It is evident that it is the desire of the author to be up-to-date. Current journals are quoted, and the opinions of American chemists on mooted points are given. For example, the student who is approaching the subject of osmotic pressure for the first time is given the usually accepted definition of the term. Then follows the definition of a chemist who takes exception to the statement given, and, finally, a third chemist is quoted as expressing the view that neither statement is entirely satisfactory. The mental state of the beginner, to whom the subject of osmotic pressure is more or less abstruse, may be imagined. Where an attempt has been made to cover so many subjects, it is not surprising that, in the endeavor to be brief, the author has included much in the book which the beginner will understand with great difficulty, if at all.

A very satisfactory laboratory course in general chemistry could be arranged by selection from the large number of experiments given. An appendix contains directions for the usual laboratory manipulations and thirty-two tables which are valuable for reference. JAMES F. NORRIS.

House Painting, Glazing, Paper Hanging, and White Washing. A book for the householder. By ALVAH HORTON SABIN, M.S., Lecturer in New York University. New York: John Wiley and Sons. 1908. 12mo. v. + 121 pp. Price, $1.00.

This book of Professor Sabin's will be found of much value to the householder and all those interested in the protection and decoration of wooden structures. As shown by the contents, the following subjects are covered:

Materials, pigments, care of paint brushes, exterior painting, painting structural metal, interior painting, varnishing, a colored finish without paint, floor-finishing, glazing, papering, whitewashing, kalsomining, cold-water paints.

While the subject is not treated from the chemical standpoint, still the information will be of assistance in showing to paint chemists the principles of painting in general and the character of the different pigments. It will also be of assistance in preparing specifications for paint materials.

S. S. VOORHEES.

RECENT PUBLICATIONS.

ANGLI-FLORENZ, PROF. ANGELO: **Ueber einige sauerstoffhaltige Verbindungen des Stickstoffs.** Uebersetzt von Prof. Kurt Arndt. Stuttgart, Ferd. Enke. 1908.

ARRHENIUS, SVANTE: **Das Werden der Welten.** Mit Unterstützung des Verf. Aus dem Schwedischen, übersetzt von L. Bamberger. 208 S. Leipzig, Akademische Verlagsgesellschaft. m. b. H. 1907.

BAUMERT, DR. GEORG: **Lehrbuch der gerichtlichen Chemie mit Berücksichtigung sanitätspolizeilicher und medizinischemischer Untersuchungen zum Gebrauche bei Vorlesungen und im Laboratorium.** Braunschweig, Verlag von Friedrich Vieweg & Sohn. 1907. M. 12.