

DESCRIPTIVE CHEMISTRY. BY LYMAN C. NEWELL, PH.D., Instructor in Chemistry, State Normal School, Lowell, Mass. D. C. Heath & Co. 1903. 590 pp.

The success of the author's "Experimental Chemistry" caused the issuance of a readable "Descriptive Chemistry" from the same publishers. The book is divided into two parts: The first "contains the text, together with exercises and problems"; the second gives the experiments (179 in number). To the former is added an appendix with the metric system, valuable problems, enough of crystallography, some history and biography, table of atomic weights, and a wholesome list of reference books. To the second is added sane advice concerning equipment of the laboratory and generous, but economic, utilization of the necessary chemicals for the course given.

In passing opinion upon a book of this class, one is confronted with the extreme points of view advocated for an elementary course in chemistry; *viz.*, it should be for the accumulation of a large number of facts or for general culture purposes and training in scientific methods. It is a distinct success in the former and does not fail in the latter, altogether. Decidedly, the modern trend has been to follow the periodic system (whether it be true or not, is not the question), or quickly lead to it. In this book, the periodic classification of the elements is arrived at only after one has read 398 pages, just 38 pages before the close of the text proper.

The use of formulas is so gradually introduced that the student does not become frightened. Chapter IX, on Equivalents, Quantitative Significance of Equations, is particularly clear, while Chapter X, on Light, Heat, Electricity and Chemical Action, is clever and holds the attention.

Regarding the theory of electrolytic dissociation or ionization, one would prefer reading "most recently put forward" instead of "now generally held." Many of the modern practices are clearly explained in large type, often with illustrations, as, for example, the Castner process. Fine print suffices for the Leblanc and Solvay processes.

The arrangement which brings into consideration the carbon oxides, cyanogen, sulphocyanates and potassium ferrocyanide before methane, etc., or even before the student has been introduced

to sulphur, may be questionable, or only a matter of opinion. On page 18, the negative sign is omitted before the figures for the boiling-point of oxygen. All sapphires are by no means blue.

We like the remark under the photogravure of Joseph Priestley, "the discoverer of oxygen," better than that under Sir Humphry Davy, "the famous English chemist whose brilliant discoveries have never been surpassed."

The experiments in Part II are not only carefully selected, but are accompanied with searching questions. To be sure, in some cases (p. 485), the answers are given in the next paragraph.

The typography is all right and the index shows the care exercised in the making, for it is excellent. After all, *the* question to which a text-book should answer is, "Is it teachable"? The answer here is an emphatic affirmative. CHAS. BASKERVILLE.

**SIMPLE METHOD FOR TESTING PAINTERS' MATERIALS.** BY A. C. WRIGHT, M.A., B.Sc. London: Scott, Greenwood & Co.; New York: D. Van Nostrand Co. 163 pp. 8 illustrations. First Edition, 1903. Price, \$2.50 net.

The author states, in his preface, that the book is designed to enable the painter and paint-dealer to test and value the materials they buy, and the manufacturer and dealer the samples submitted to them, in the simplest manner, both in regard to practical properties and composition, the latter term used more in a manufacturing than in a purely chemical sense.

In a short introduction the author emphasizes the necessity of testing pigments and paints, and establishing and preserving reference standards. Some 30 pages are next devoted to a description of the apparatus and reagents to be used in the tests. The remaining 117 pages are devoted to a discussion of the mechanical and chemical properties and tests for impurities of dry and paste colors, liquid and gloss paints, varnishes, driers, linseed oil and turpentine.

A book of this kind must necessarily be incomplete and, to some extent, unsatisfactory. It is true that there are many tests for impurities and inferior or debased quality that can be made by the class to which this book is mainly addressed—dealers and practical paint-users—and confidence placed in the results. But, on the other hand, there are many varieties of paints and oils on the market whose quality can only be judged by the analyses of a