

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

competent chemist, analyses that are too difficult and require too much apparatus to be attempted by the layman. The author recognizes this difficulty and very properly cautions against a charge of fraud on the part of the manufacturer or dealer, unless based on the analysis of a chemist.

The various tests given are, for the most part, qualitative, and in full detail, the varieties of paints most in use being treated at length. Besides the tests that are well known, several not in common use, are described. The book is well worth the price to the user of paints and contains much information on the subject that he will appreciate, and the general analyst also will find many points that will be of assistance in his analytical work. The proof-reading has been carefully done, though a few sentences read strangely—as where he speaks of the “efflorescence of carbonic acid” on warming lead carbonate with dilute nitric acid.

The printing and paper are up to the standard of the publishers, and the book has a good index.

FRANK JULIAN.