

briefly. Although the text contains but 336 pages, the index covers 20 pages, each containing two columns.

The theoretical considerations are contained in two chapters placed in about the middle of the book: one on molecular weights (six pages), and one on the theory of electrolytic dissociation (five pages). In addition, there are a few brief references to such subjects as valence, reversible reactions, etc., scattered throughout the text. The theory appears to be given for the sake of the theory itself, and not on account of its value in interpreting chemical phenomena; little application is made of it in the treatment of compounds or reactions which are discussed in subsequent chapters.

The book is strikingly original and will, no doubt, appeal to many teachers. A student who has mastered its contents will know more facts of inorganic chemistry than can be learned by a study of many books twice its size.

JAMES F. NORRIS.

**Experimentelle Untersuchungen über Atomgewichte.** VON THEODORE WILLIAM RICHARDS und seinen Mitarbeitern, 1887-1908. Mit 34 Abbildungen im Text. Deutsche Ausgabe besorgt von J. Koppel. Hamburg und Leipzig. Verlag von Leopold Voss. 1909. vi + 890 pp. Price, 35 marks.

A felicitous outcome of the delivery of a course of lectures in the University of Berlin by Professor Richards has been the publication of this substantial and important volume. About a fifth of its pages now appear for the first time in a German translation; the matter reprinted from a previous translation has been revised only to make it more faithful to the English original.

The first article is entitled "Die in Harvard ausgeführten Atomgewichtsbestimmungen"; the included bibliography gives the titles of 63 papers. Four of these contain the work of Cooke on antimony and of Huntington on cadmium, and antedate Richards' activity. Nine of the more recent do not mention his name as author. Of the remainder, 43 papers, filling 850 pages of this reprint, bear his name, and 19 of them, with their 330 pages, bear his name alone. These 43 together with three others needed for completeness of presentation, contain determinations of the atomic weights of no less than 19 elements: a magnificent body of work of the highest attainable accuracy.

EDWARD W. MORLEY.

**Treatise on Qualitative Analysis.** By J. F. SELLERS. Second revised edition, 173 pp. Ginn & Company. 1909. Price, \$1.00.

Treatise is the proper title for this little work. It deals with qualitative analysis from all sides. Almost half of the book is taken up with theoretical considerations, explanations of analytical operations and additional notes. The application of physical chemistry to analytical chemi-