

classified together systematically, which is by no means an easy task. This has been accomplished by arranging them in the first part of the book, under the following heads: Analysis by Neutralization, Precipitation, Oxidation, Indirect Oxidation (Iodometry), and Analysis of Easily Reducible Substances.

Following a general introduction, accompanied by complete directions for using apparatus, each class is introduced by a clear exposition of its principles, and in addition each assay is treated in a uniformly explicit manner. In some instances other methods are added to those official, as for example, Stolba's method to determine phosphoric acid, Personne's method for valuing potassium iodide, or Kingzett's method to determine the available oxygen in hydrogen dioxide. An excellent feature is, that with each reaction the equation and molecular weights involved are also given, the equivalent weights entering into the percentage calculation being deduced therefrom and stated.

Thus in each assay the operator finds the work a complete guide, nothing being left to conjecture or research, each subject being complete in itself, and hence Part 1st of the book becomes a systematic commentary on the assay methods of the U. S. P.

Part 2nd embraces manipulations of a more elaborate nature, such as the Assay of Opium, Cinchona, Ipecac, The Valuation of Pepsin and of the Resinous Bodies in Jalap and Scammony. These are of great value to pharmacists, and it is to be regretted that in this direction Prof. Schimpf did not enlarge upon the U. S. P. It is needless to state that in such cases gravimetric methods are employed. Attention may be called to the introduction of the methods of Benedict and Sigmundy for estimating glycerol, and of Loewenthal for tannin in barks, these being omitted in the U. S. P., and also to directions for the Volumetric Analysis of Sugar, Urine, Starch in Cereals, Alcohol, Milk, Butter, Fats in Ointments, and numerous others not mentioned in the U. S. P.

Part 3rd is devoted to Gasometric Analysis, and the estimation of Spirit of Nitrous Ether, Hydrogen Dioxide, etc., by the Nitrometer. The Appendix considers Indicators, Reagents, and Test Solutions.

This book is well illustrated and invaluable both to pharma-

cists and to chemists interested in assaying. It is an outgrowth of the Pharmacopeia and the reviewer regrets that space does not permit him to dwell at greater length on its excellent features. Every volumetric method of the Pharmacopeia is recorded explicitly with the one exception for oleic acid in which the process of Muter's Chemistry is substituted, being an improvement, however, in that the assay introduced determines oleic acid in the presence of stearic and palmitic acids which the method of the U. S. P. does not accomplish.

Notwithstanding that such a variety of subjects are embraced and condensed in a comparatively small volume, superficiality can not be charged against it. The book enables the reader, even though he has but a limited training in chemistry, to comprehend and at once carry out each assay described. It should be in the hands of every pharmacist.

J. U. LLOYD.

A TEXT-BOOK OF INORGANIC CHEMISTRY. BY G. S. NEWTH, F.I.C., F.C.S. pp. xiii; 667. 146 Illustrations. London and New York: Longman's, Green & Co. 1894. Price, \$1.75.

To those who have learned to appreciate the value of Newth's "Chemical Lecture Experiments," the announcement of a complete text-book by the same author, will certainly be a matter of interest. Lecturers on experimental chemistry have found the "Experiments" a most helpful guide, replete with clever, ingenious, practical devices for the lecture table, placing at the instructor's service all the latest mechanical and electrical adjuncts, and substituting for many of the antiquated illustrative features, modern striking forms of experimentation.

The same characteristics are to be encountered in the new work, freshness in material and treatment, numerous illustrations, novel and suggestive, replacing many of the time-honored wood-cuts of the standard text-book.

The author's arrangement of matter is a deviation from all the customary methods. He divides his work into three quite distinct parts. Part I—"Introductory Outlines." 150 pages are devoted to theory and chemical physics, notation, nomenclature, atomic weights, valence, heat, pressure, electrolysis, solutions, thermo-chemistry, periodicity, etc. This whole section is