

having to discover or recognize for themselves the most important papers for that purpose. Thus, the monographs of Wolfgang Ostwald will differ from those of William Ostwald by being confined to a single subject and by being published as nearly as possible at the time of the completion of the experimental work.

W. R. WHITNEY.

Metallographie: Ein ausführliches Lehr- und Handbuch der Konstitution und der physikalischen, chemischen und technischen Eigenschaften der Metalle und metallischen Legierungen. DR. W. GUERTLER. Erster Band: Die Konstitution. Heft. I., Berlin, Gebrüder Borntraeger, 1909. 80 pp. Price, M. 4.20.

Dr. Guertler has planned a comprehensive treatise on metallography. In this volume, which deals almost exclusively with the theoretical side of the subject, he discusses the constitution of binary alloys. After reviewing the early development of the science, equilibrium diagrams of binary mixtures are discussed from the point of view of the phase rule, solid solutions and compounds are studied, and the cooling curves of the alloys manganese-iron, iron-cobalt, and nickel-cobalt are considered in detail.

It is difficult to discuss in detail so small a part of an extensive treatise, but Dr. Guertler is especially well fitted to undertake a comprehensive work such as he has planned, and so far he has succeeded admirably. The book will be difficult for all except those who have had considerable training in physical chemistry. The discussion of some of the diagrams seems unnecessarily complicated, and it is believed that the practical methods of metallography should have been discussed as early as possible so as to make clear the manner of establishing a complete diagram. The book is excellently printed and is well provided with marginal references to the text.

HENRY FAY.

The Elements of Metallography. By RUDOLF RUER. Translated by C. H. Mathewson. First edition. New York: John Wiley & Sons. 8vo. xiv + 342 pp., ill. Cloth, \$3.

The book is divided into two parts, Theory and Practice. In Part 1 there are four chapters dealing with: *One-component system*, transformations and heterogeneous equilibria. *Two-component systems*, the different cases of various solubility in the liquid and solid states, without and with polymorphous transformations or the formation of chemical compounds. The different cases are illustrated by typical alloys mostly from work done at Goettingen. Supplementary sections are given on methods of determination of equilibrium curves and methods of investigation of solidified mixtures. *Three-component systems*, insoluble in solid state; completely soluble in solid state; phase rule.

Part 2 deals with methods of thermal investigation, heating apparatus, cooling and heating curves and the like; investigation of structure, microscopic examination. At the end of the book there is a collection of

references to binary fusion diagrams and an index of authors' names besides the usual index.

To those who are interested in metals and alloys, and their name is legion, this work will be very welcome. It is well written and the reader is led by easy steps through the various groups of alloys, each illustrated by diagrams, without being lost in some of the more intricate problems of physical chemistry on the way. Criticisms of the book are few. Of the few photomicrographs given some are excellent while others are indistinct. The collection of references at the end of the book is apparently incomplete, while the addition of sections on brasses and bronzes parallel to that on iron and carbon would have been of value to many general readers.

For such a book there is a great need and this one will undoubtedly be a welcome addition both for class work and the general reader.

WILLIAM CAMPBELL.

RECENT PUBLICATIONS.

ABEGG, R., UND AUERBACH, FR.: *Handbuch der anorganischen Chemie*, in 4 Bänden. 3 Bd. 2 Abt. Die Elemente der vierten Gruppe des periodischen Systems. Leipzig: S. Hirzel. Geb., 27 M.

ABEL, R.: *Bakteriologisches Taschenbuch, enthaltend die wichtigsten technischen Vorschriften zur bakteriologischen Laboratoriumsarbeit*. Würzburg: Curt Kabitzsch A. Stubers Verlag). 13 Aufl. Kl. 8°, 130 s. Geb., 2 M.

ARRHENIUS, SVANTE: *Theorien der Chemie*. Übersetzt von Alexis Finkelstein. 2 Aufl. Leipzig: 1909. Akademische. Verlagsgesellschaft m. b. H. 7.50 M.

AUTENRIETH, W.: *Die Auffindung der Gifte und stark wirkender Arzneistoffe. Zum Gebrauch in chem. Laboratorien*. Tübingen: J. C. B. Mohr. (Paul Siebeck.) 4 vollst. neubearb. Auflage. Gr. 8°, 286 s., geb., 8.60 M.

BAGSHAW, W.: *Elementary Photomicrography*. Second edition. Hiffe. 8°, 104 s., 2 s.

BAILEY, C. H.: *First Stage Inorganic Chemistry (Theoretical)*. Fourth edition. W. B. Clive. 8°, 257 pp., 2 s.

BAIRD, H. C.: *The Practical Dry Cleaner, Scourer and Garment Dyer*. Edited by W. T. Brannt. 3d ed. rev. and enl. Phila.: H. Carey Baird & Co. \$2.50.

BAUSOR, H. W.: *First Stage Inorganic Chemistry (Practical)*. Revised edition. Clive. 1 s.

BEHRE, P.: *Ueber einige Adsorptionerscheinungen*. Hildesheim: August Lax. 8°, 69 s., 2 M.

BENNETT, H. G.: *The Manufacture of Leather*. Constable. 8°, 442 pp., 1 s. 6 d

BILTZ, H.: *Qualitative Analyse anorganischer Substanzen*. Leipzig: Veit & Co 3 Auflage. Geb., 2.40 M.

BINZ, PROF. DR. A.: *Chemisches Praktikum für Anfänger. Mit Berücksichtigung der Technologie*. Berlin: G. Reimer. 154 s., 4.80 M.