A Source Book in Chemistry, 1400–1900

Edited by Henry M. Leicester and Herbert S. Klickstein. (Source Books in the History of the Sciences.) Pp. xvi+554. (London: McGraw-Hill Publishing Co., Ltd., 1952.) 64*s*.

FOR this contribution to the series "Source Books in the History of the Sciences", an international group of scholars acted as advisers. The selection employed, restricted "to material which illustrates the development of chemical theory only", pays frequent tribute to the acumen of "The Alembic Club Reprints" and Ostwald's "Klassiker". Some one hundred and forty excerpts are provided, with brief notes on the eighty authorities who are cited in the list of contents.

Even so prosaic an anthology will arouse contention. Some will look for Lomonosov, Higgins, Stas or Newlands; others will note the omission of original papers on kinetic theory; and many will argue that the discovery of the inert gases has influenced "the development of chemical theory" much more than Agricola's recipe for mineral acid. It would be interesting to know on what system Dulong is so distinguished to the disadvantage of Petit, why "Wöhler and Liebig" on the benzoyl radical appears under Wöhler, and why Dalton is represented in part by a lengthy extract from Thomas Thomson. Richter is illustrated by a "Table of Richter's equivalents" which is in fact a table calculated and composed by E. G. Fischer. There is a degree of confusion on the origin of footnotes (author, translator, editor) and a few ill-advised intrusions in the text, as, for example, an unidentified one "(i.e. carbon monoxide)" in a paper by Cavendish (p. 148). There are a useful author index, and a bibliography of biographies. There is no subject index.

The translations specially made are in general business-like and clear. The contemporary translations of older works are charming and well chosen. There are notably few misprints. There is great advantage in this collection of an English version of so many pregnant essays between one pair of covers, and the volume is a proper candidate for the staff bookshelf in every place where chemistry is seriously taught.

ANDREW KENT

The Phase Rule and its Applications

By Alexander Findlay. Ninth edition, by Prof. A. N. Campbell and Prof. N. O. Smith. Pp. xii+494. (New York: Dover Publications, Inc., 1951.) Paper, 1.90 dollars; cloth, 5 dollars.

CONSIDERED by some as a classic and by many as the standard work, Findlay's "Phase Rule", when first published in 1904, had 313 pages; in the eighth edition of 1938 there were 327 pages. Owing to unceasing research and the shift of emphasis, the eighth edition no longer reflects a comprehensive view of the subject. Accordingly, the authors—they are more than revisers—have rebuilt the book from a new selection of available knowledge. Their own contributions to the literature and their awareness of the needs of students make them well fitted for the task. They have eliminated matter of diminished importance, greatly increased the number of references and illustrations and much extended the range of topics discussed.

Thus the authors give entirely new treatment both of ternary liquid – vapour equilibria and of solid solutions in ternary systems. Included also are: phase changes in the cooling of ternary melts, quinary systems of salts and water, critical phenomena in binary systems, salting out, soap systems, fuming liquids, the free-energy basis of ternary and condensed systems, and the experimental determination of freezing-point diagrams.

The clear style of writing, the explanatory notes, the graphical thermodynamic deductions of some familiar equilibrium diagrams, and the frequent use of solid models should afford valuable help to students. The extended scope and extensive changes make this in all but name a new book and it should rank as the standard work in English on this subject.

G. F.

Statistical Year-Book of the World Power Conference

Annual Statistics for 1948–1950, with some Supplementary and Revised Statistics for Earlier Years and Available Statistics for 1951; some Additional and Revised Data on Resources. Edited, with Introductory and Explanatory Texts, by Frederick Brown. Pp. 163. (London: World Power Conference, 1952.) 35*s*. net.

THE third post-war issue of the "Statistical Year-Book of the World Power Conference", which has now become a biennial publication, gives statistics for 1948–50 with additional and revised information for earlier years and the available statistics for 1951. There are also some additional and revised data on resources. Like its predecessors, the present issue contains statistics of the productions, stocks, imports, exports, consumption of power and sources of power in all the countries of the world from which it was possible to obtain information. Data on resources are included only where important additional information has become available. The power sources are coal, lignite, peat, coke, manufactured fuel, wood, gas, water-power and electricity. Most of the statistics were supplied by the national committees of the World Power Conference; but, to a substantially greater extent than in previous issues, statistics have been reproduced from publications of the United Nations and from government sources. Preliminary tables give the area and population of all countries; the population figures are estimated for each year during 1948–51 and also for the last census. All measurements are on the metric system.

The Ant World

By Derek Wragge Morley. (Pelican Books.) Pp. 191+8 plates. (London: Penguin Books, 1953.) 2*s*.

THE publishers of Pelican books have again performed a useful service to natural history by the publication of this book on ants. Wragge Morley began to study ants when he was fourteen, read his first research paper two years later, and has been an 'ant man' ever since. Now, at thirty-three, he brings his long experience together in a form which is both interesting and scholarly to describe a group of insects which, although little known, comprises some fifteen thousand species—a number which is constantly being enlarged by the discovery of new ones. Harvesting ants, soldier ants, mushroom-growing ants, spinning ants, ants which live in small and large communities, ants a millimetre long and ants $3\frac{1}{2}$ in. long, are all described from the points of view of history, behaviour, ecology and physiology. Morley also pays attention to the considerable economic importance of ants to man. The book is admirably illustrated with line-drawings and photographs.

T. H. H.

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