

this feature. The value is reduced, however, by the large number of typographical errors which are scattered throughout the book and references.

A second valuable contribution which might well be expected from such a book is a critical discussion of the collected data. In a few instances this has been given. The discussions on deuterium solvent isotope effect and on intrinsic migration aptitudes, for example, are clear, concise and cogent. Much of the reporting, however, is uncritical and occasionally observations which are open to serious question are presented without editorial comment. A fairly broad grounding in theoretical organic chemistry on the part of the reader is assumed. Because of these two circumstances, the book cannot be recommended for the unsophisticated student of organic chemistry. The drawbacks are less serious for the advanced worker or specialist who intends to use the book as a guide to the literature of isotopic tracing through 1952.

MELLON INSTITUTE
PITTSBURGH 13, PENNA.

AKSEL A. BOTHNER-BY

Gmelins Handbuch der Anorganischen Chemie. Platin. Teil D. Komplexverbindungen mit Neutralen Liganden. System-Nummer 68. E. H. ERICH PIERSCH (Editor). Verlag Chemie, G.m.b.H., Weinheim/Bergstr., Germany. 1957. lix + 638 pp. 18 × 25.5 cm. Price, \$90.00.

This is the final portion of the treatment of the element platinum. It covers, through 1953, the literature on complex compounds of platinum with neutral ligands. Following 38 pages of general introductory discussion, 425 pages deal with complexes of divalent platinum and 150 pages with those of the quadrivalent element. Compounds containing both divalent and quadrivalent platinum, divalent palladium and quadrivalent platinum and platinum organic compounds not containing neutral ligands occupy the remaining 15 pages. There is a convenient index in which the complexes are classified by the kind and number of ligands.

There is every evidence that the encyclopedic coverage characteristic of other parts of the great Handbuch has been maintained in this volume.

NATIONAL BUREAU OF STANDARDS
WASHINGTON, D. C.

EDWARD WICHERS

Elements of Classical Thermodynamics for Advanced Students of Physics. By A. B. PIPPARD, M.A., Ph.D., F.R.S., Lecturer in Physics in the University of Cambridge and Fellow of Clare College, Cambridge. Cambridge University Press, 32 East 57th Street, New York 22, N. Y. 1957. vii + 165 pp. 14.5 × 22 cm. Price, \$4.75 (cloth); \$2.75 (paper).

Pippard attains the fine level of excellence one is accustomed to find in books from the Cambridge University Press. Succinct but not brief, thorough but not boring, instructive but not pedantic describe the general tenor.

In the author's words, "... this is probably not a suitable textbook for the beginner, but I hope the more advanced student will find here a statement of the aims and techniques which will illuminate any specialized applications he may meet later." Both the text and the set of 14 rather difficult exercises are gauged for this level.

Little mention is made, as the title would indicate, of statistical ideas. The first three laws are stated and developed from a classical viewpoint, and then applied to many of the most interesting simple systems and their changes. Little attention is paid to chemical systems and changes as such, for the book is written largely for students of physics and mathematics. Applications to adiabatic and isothermal changes, to phase equilibrium, to radiation, to magnetic fields, to phase transitions of various orders, are well done. The thermodynamic inequalities concerning the increase in entropy, the decrease in availability (free energy), and the conditions of equilibrium are given good coverage.

The terminology is, of course, not that used in this country. Perhaps the book should be read by American students just to acquaint them with the provincialism of our scientific language. It might also remind ever more Americans of the desirability of international agreement on scientific

terminology. The needs may not be as pressing as in the political arena, but each added area of mutuality should be a step in the right direction.

DEPARTMENT OF CHEMISTRY
HARVEY MUDD COLLEGE
CLAREMONT, CALIFORNIA

J. A. CAMPBELL

The Chemistry of the Steroids. Methuen's Monographs on Biochemical Subjects. W. KLYNE, M.A., D.Sc., Ph.D., Reader in Biochemistry University of London (Post-graduate Medical School). John Wiley and Sons, Inc., 440 Fifth Avenue, New York 16, N.Y. 1957. 216 pp. 12.5 × 19 cm. Price, \$3.50.

One of the aims of this book is "to provide an outline of the chemistry of the steroids for the non-chemical readers... to enable him to discuss his problems with chemists better." This aim was not quite achieved for the truly non-chemical reader for he will find some parts of this book hard to follow. Some of this difficulty lies in the authors' use of chemical terms before they are explained.

The author "hoped that the book may also be useful to chemists whose special interest lies in another branch of the subject." Although there are a few elementary passages, this group will find this book valuable in obtaining a rapid introduction to steroid chemistry. Both groups will appreciate the difficulty in presenting the subject matter to two groups with different background.

The book opens with a brief but interesting chapter on the history of the steroids. The stereochemistry of the ring junctions and the various positions of the steroid molecule is discussed with a short description on the concept of conformation of ring systems. The most vital subject of nomenclature is clearly presented. The application of ultraviolet and infrared spectrometry and optical rotation on structure determination comprises the chapter on physical properties. There are two excellent chapters on the chemical properties of the functional groups on the steroids which will be particularly instructive to the non-chemical reader. The other chapters cover the naturally occurring steroids with brief discussions on the isolation and pertinent chemistry of the more important compounds. The basic methods of separation of the steroids are considered in the last chapter. Only an outline of the methods of determination of steroids is presented since this subject will be covered by a companion book.

This book is written in a very readable style and the text is amply supported with structural formulas and tables. There is a bibliography for each chapter. The references are principally to review articles which make further information on the subjects more accessible to the non-chemical reader. The book is recommended for both the non-chemical reader and the non-steroidal chemist who wish to obtain an introduction to steroid chemistry. It will also be a useful addition to the steroid chemists' library.

DIVISION OF STEROID METABOLISM AND BIOCHEMISTRY

SLOAN-KETTERING INSTITUTE
410 EAST 68TH STREET
NEW YORK 21, NEW YORK

DAVID K. FUKUSHIMA

Metallurgy of the Rarer Metals. General Editor of Series, H. M. FINNISTON, B.Sc., Ph.D., A.R.T.C., Head of Metallurgy Division, Atomic Energy Research Establishment, Harwell, Berkshire. No. 2. Zirconium. By G. L. MILLER, Ph.D., B.Sc., A.R.I.C., M.I.Chem.E., M.I.M.M. Academic Press Inc., 11 Fifth Avenue, New York 3, N. Y. 1957. xxi + 548 pp. 14.5 × 22 cm. Price, \$12.50.

This second edition of Dr. Miller's book on zirconium cannot be regarded as a mere up-dating of the first edition issued 4 years ago, but rather as a new book which illustrates, by its 50% greater length and coverage of items not even mentioned in the first edition, both the exuberant growth of zirconium technology during the past 4 years as well as the expanded declassification policy of the USAEC. This volume, therefore, as the third and most recent major text on zirconium to appear within the past 4 years, must be reviewed within the present context of the existence of a voluminous literature as well as of a flourishing technology.