

Sn₃U); in others this cross reference is missing (e.g., CeCo₂, CeNi₂, LaNi₂). Si is discussed under both "metals" (p. 6) and "inorganic compounds" (p. 218, p. 516).

The first 25 pages on inorganic compounds, starting with diamond, graphite, and carbon, are an example of the thoroughness of the reviewers. They present an amount of information that is rarely found anywhere in such completeness. The number of papers represented and the description of the properties are such that the reader can orient himself about the structure information available at the present time and its relation to physical properties. It is particularly important that the structures analyzed and reported include some published in journals, such as the Russian, that are not readily available in university or industrial libraries.

This volume is an imposing contribution if one considers that most of these investigations cover the years 1947 and 1948 only, and it shows that a large amount of work is still to be done in this field. The preparation of the volume, the printing, and figures are excellent, and it will be of great value for research in physics, chemistry, and mineralogy.

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Astrophysics: The Atmosphere of the Sun and Stars.

Lawrence H. Aller. New York: Ronald Press, 1953. 412 pp. Illus. \$12.00.

In this and a proposed companion volume discussing stellar interiors, variable stars, and the interstellar medium, Dr. Aller wishes to give an account of modern developments in astrophysics, as well as discussing the fundamental ideas used by research workers in astrophysics. The present volume deals, as indicated in its title, with the atmospheres of stars and of the sun. The author has succeeded in giving a comprehensive and authoritative account of atmospheric problems and of the latest developments in this field.

One gets the impression that this book should first of all be intended for research workers. The author takes great care to show how the methods he describes are used to solve specific problems and discusses in detail such complicated procedures, for instance, as Chandrasekhar's method for dealing with radioactive transfer in an atmosphere. On the other hand, in the earlier chapters, problems are included, giving the impression that this book is intended to be a textbook for graduate students. This impression is further strengthened by the general style that reminds one strongly of the lecture theater.

As a textbook this volume is well planned but unfortunately not quite so well executed. The style is often too easy and vague. As instances I may give the footnote on page 7 where it is stated that the zero

point of the magnitude scale is set by general agreement without, however, explaining how this zero point is set. Similarly, a statement on page 189 suggests that the binding energy of the negative hydrogen ion can be calculated exactly.

As a handbook for the research worker in the field, however, *Astrophysics* can be very highly recommended. After five introductory chapters discussing in some detail the physical theory used in the last part of the book, the final four chapters discuss in great detail the radiation of the stars, the continuous spectra of sun and stars, the Fraunhofer spectrum, and solar phenomena. The book is well produced and there is an extensive index.

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Synthetic Organic Chemistry. Romeo B. Wagner and Harry D. Zook. New York: Wiley; London: Chapman & Hall, 1953. 887 pp. \$11.50.

This reference volume summarizes the important synthetic methods for the preparation of organic compounds containing one and two functional groups. The authors consulted journals and books from 1919 through 1950 and have organized an enormous mass of material into 39 chapters, each chapter dealing with a class of compounds and its simple substitution products and describing useful methods which are numbered. Description is very brief with the general method but not the experimental procedures given. At the end of each chapter one finds one or more tables in which the compounds are arranged according to the number of carbon atoms with a citation to the method number, percentage yields, chapter references, common physical constants, and derivatives.

Common names are used as in the original literature, but the compounds are readily located in the tables. The main index does not repeat the compounds in the tables but gives the page reference to the chapter where the synthesis of that particular class of compounds is described.

Some idea of the scope of the volume is indicated by the fact that there are 576 methods given, together with 118 tables including over 6000 compounds. The literature citations total more than 7000 and constitute a valuable timesaving service to chemists.

The compilation and systematic organization of all this information into one volume represent an enormous amount of work and the authors have rendered a real service to chemists in preparing this book. It will prove a useful reference volume.

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