on temperature, density, pressure, and humidity to 100 km.

This is intended as a textbook for undergraduate courses in physical meteorology. For this purpose it should succeed. The material is well organized in spite of the wide diversity of topics it covers and is written in a readable manner. Following each chapter adequate references and source books are listed as well as several thought-provoking problems. The many figures deserve a special note of praise for their simplicity, originality, and unusual clarity. A list of symbols and an index are included.

Johnson has presented in condensed form the fundamentals of a wide range of subjects bordering on meteorology. The book is highly recommended, not only as a textbook, but also as a useful reference for the professional meteorologist.

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Introduction to Chemistry. R. T. Sanderson. Wiley, New York; Chapman & Hall, London, 1954. 542 pp. Illus. $5.50.

This book may find a clientele among those who gained their science in earlier years and would like a readable book with a minimum of mathematics and detailed material, to bring them up to the current concepts of atomic, nuclear, and molecular structure, ionic effects, and other basic concepts of chemistry. In addition to the suggested use as a self-review for those who have been through the elementary chemical education process, this book can obviously serve as a guide for an elementary course, provided that suitable lectures and experiments accompany it so as to provide an adequate background for comprehension.

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Organic Coating Technology. vol. I. Oils, resins, varnishes, and polymers. Henry Fleming Payne. Wiley, New York; Chapman & Hall, London. 1954. 674 pp. Illus. $10.

The subject material in this book and in volume II, which is in preparation, is the chemistry, manufacture, and practical application of modern commercial coating materials. Volume I deals with fundamentals of film formation, plasticizers, test methods, and the basic chemistry and general use of coating materials such as vegetable and marine oils, varnish resins, alkyds, ureas, melamines, rubbers, cellulosics, vinyls, acrylates, and silicones.

Payne's lucid discussion, which is on a theoretical basis, provides a solid foundation for students and technicians to delve deeper into their various fields. Reference is made in each topic to commercially available coating materials and suggested formulations. This type of information, which is a proper combination of the theoretical with the practical, is of great assistance to the technician who often is forced to work rather blindly with commercial coating materials of undisclosed chemical composition. Credit must be given to the manufacturers who have made it possible for the author to gain this clear understanding of the nature of their products. In a book of this scope, there naturally are unavoidable omissions under the various subjects discussed, but on the whole the necessary fundamental information is presented clearly and concisely.

In the preface, the author states that this book, together with volume II, is intended for students in paint courses and for new employees in the oil, pigment, and paint industries. In my opinion, this book, because of its broad theoretical and practical scope, is worth careful reading also by the experienced technician. Payne has written on this difficult and highly ramified subject with the skill and understanding of a highly successful teacher, which he has been for a considerable number of years at the Polytechnic Institute of Brooklyn.

It is hoped that the high standard and interesting presentation of this book will be continued in volume II.

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Chromium. A. H. Sully. Academic Press, New York; Butterworths, London, 1954. xii + 272 pp. Illus. $5.50.

Zirconium. G. L. Miller. Academic Press, New York; Butterworths, London, 1954. xviii + 382 pp. Illus. $7.50.

These two books are the first of a series on the metallurgy of the rarer metals. Future editions are planned for titanium, molybdenum, platinum and the metals allied with it, manganese and uranium.

The first of these, *Chromium,* describes the ores, production of ferro-alloys and pure chromium, physical properties, fabrication and mechanical properties, electroplating, chromizing, and the constitution and properties of chromium alloys. The chapters on physical and mechanical properties deal extensively with some of the problems associated with the development of room-temperature ductility in chromium—that is, impurity content and nature of applied stresses. The discussions of electroplating and chromizing are very complete with respect to both theory and practice. The last chapter, which deals with the constitution and properties of chromium alloys, is one of the best summaries of this subject that has appeared.

The second book, *Zirconium,* is a fairly complete collection of the latest information on this metal. The first three chapters describe the history, occurrence, consumption, use, and extraction from ores. The fourth chapter, dealing with the separation of hafnium and zirconium, is of special interest by virtue of