

## Oceanology, meteorology and climatology

*Oceanology*, vol. 1. (Geophysics Series.) Edited by A. P. Kapitsa and P. S. Lineykin. Pp. 127. (Hall: Boston, Massachusetts, January 1975.) \$19.00.

*Meteorology and Climatology*, vol. 1. (Geophysics Series.) Edited by I. P. Danilina and A. P. Kapitsa. Pp. i+224. (Hall: Boston, Massachusetts, January 1975.) \$29.00.

THESE two books are the first volumes of a proposed series of reviews of recent scientific achievement in geophysical subjects: oceanology, meteorology and climatology, physics of the earth, glaciology, and geomagnetism and the upper atmosphere. Published by the Russian All-Union Institute for Scientific and Technical Information (VINITI) they continue the Summaries of Scientific Progress which first appeared in 1964. Chapters are contributed by Russian authorities in the relevant fields and outline briefly, with some comment, advances made in the two or three years before the original publication in Russian; the volumes thus refer to literature published in the late 1960s and early 1970s. Although the emphasis is placed on Russian work, there is also discussion of research completed in other countries.

The volume entitled *Meteorology and Climatology* includes chapters on physical, satellite and agricultural meteorology, climate and climatic change, photochemistry and the ozone-sphere, and glaciers. The *Oceanology* volume covers sea-atmosphere interaction, sea ice, sea straits, sea forecasts and oceanographic technology. This choice of topics seems somewhat arbitrary, but will probably vary in future volumes. The presentation ranges between the extremes of complete specification of the then current state of knowledge in the particular field and terse chronological summaries of recently published literature, with little reference to earlier research.

Although these works provide insight into the development of various aspects of the sciences, the publication in English some years after their first appearance in Russian rather dates the material discussed. It is felt that researchers in these fields will already be familiar with literature published, even in Russian, five years ago and that their primary interest will be historical.

But value of future volumes in the series would be greatly enhanced if a shorter delay between Russian and English publication could be achieved.

P. M. Kelly

## Iron in organisms

*Iron in Biochemistry and Medicine*. Edited by A. Jacobs and M. Worwood. Pp. xiv+769. (Academic: London and New York, October 1974.) £15.20; \$39.25.

IRON is one of the trace elements present in mammals. It is a transition metal and as such it exists in several oxidation states and forms many metallo-protein complexes. The fascinating multiplicity of structure and function in iron compounds has been investigated by many research workers in widely separated disciplines and their efforts to elucidate various aspects of iron metabolism have yielded a vast amount of valuable information. It has become difficult to keep track of all the published data in several rapidly expanding areas of iron metabolism, but the excellent collection of reviews in *Iron in Biochemistry and Medicine* now makes this task much easier.

In this book 35 active investigators have reviewed the present state of knowledge in their particular areas of interest for the benefit of their colleagues in the same field and for those working in other disciplines. The book comprises twenty chapters, each containing a review of one topic. The topics selected all concern major aspects of iron metabolism.

The biochemistry of iron compounds is discussed in the first half of the book: the structure and function of inorganic iron, transferrin, ferritin, haemosiderin, haem, haem-proteins and non-haem iron proteins are all reviewed in great detail. The chapter on the relationship between iron and other trace metals completes the biochemical section. This is followed by reviews on the physiology and pathology of iron metabolism: iron absorption, iron deficiency and its manifestations and effects, its epidemiology and treatment, iron metabolism in infancy and childhood, the iron and the reticuloendothelial system, and iron overload. Finally, in the last three chapters, the kinetics of iron metabolism, the relationship between iron and infection, and genetic abnormalities of iron metabolism in mice are reviewed.

The book is uniformly well written, with surprisingly little repetition, a tribute to the editorial policy. Many tables and a modest number of illustrations, all thoughtfully prepared, are of great help to the reader, and the references at the end of each chapter are extensive though not comprehensive.

It is perhaps the aggregation of data from widely separated subjects which makes this book so valuable. I would certainly like to have it to hand if I needed to quote the data on iron metabolism from outside the area of my personal interest.

I strongly recommend this book as useful reading for scientists working in

this field. The clinician will find a wealth of biochemical information on the iron proteins he is trying to study by simple means in his patients. The biochemist will learn a lot about the significance of abnormalities or iron metabolism found in diseases. And I am sure that both will obtain considerable help in planning and executing future research.

B. Brozović

## Hadron physics

*High Energy Hadron Physics*. By Martin L. Perl. Pp. xviii+562. (Wiley-Interscience: New York and London, December 1974.) £12.00.

THE nature of the strong nuclear (hadronic) interaction has been the subject of extensive theoretical and experimental investigation over the past 20 years and more, and from time to time books have appeared on aspects of this field, usually impressing upon the reader the need for further understanding of the theoretical complexities involved. This monograph by Professor Perl, an international authority in the field, helps considerably in that respect, and will be of interest and value to postgraduate students and workers at the postdoctoral level. The completion of this book, a *tour de force*, clearly required considerable stamina besides intricate academic knowledge. The author moves along with obvious energy and enthusiasm from the outset to the end, some 500 pages later, generating *en route* considerable respect for both Perl himself and his subject. Were anyone to doubt the usefulness and value of sabbatical leave, let him obtain a copy and read this book. Without such support, most practising experimental physicists would simply not have the time to create work of this quality and detail.

The standard of the book is such that the reader needs a knowledge of the basic theoretical and mathematical background material in elementary particle physics, such as one may acquire from lectures at the first year postgraduate level. Although the style of writing is often conversational, the book demands serious concentration; the considerable formal mathematical manipulation in some chapters makes the going heavy and will demand the continued perseverance of the student. I feel that the low energy nuclear or astrophysicist, who picks up this book and sees from the fly leaf that it will be an "invaluable reference" to him, could well be in deep water very soon.

The book, which contains a reasonably balanced mixture of experimental data and theory, may seem expensive but at present standards it is not excessively so. I hope, and expect, to find the book retained by science libraries for reference.

W. Galbraith