

short account of the life of Sir John Pettus (reproduced from a manuscript in the possession of one of the translators), a note on the system of weights and measures used by Ercker, and an extensive list of the reference works used by the translators in preparing this edition.

It may come as a surprise to readers versed in modern assay practice to find how little change there was in assaying techniques for three centuries following Ercker's time; and even to-day, Dr. Smith states, the assay of gold and silver ores is conducted in almost exactly the same manner as that described by Ercker, with similar implements. The book has, however, a wider interest, for the light it throws on the practical knowledge of chemistry that existed among these old assayers, often quantitative as well as qualitative. They were establishing a tradition of accurate measurement and, at the same time, accumulating data later to be used in the formulation of chemical theories.

Here, then, is a book which should appeal not only to the student of early technology, but also to those interested in the development of chemistry and metallurgical practice. It is an important addition to the list of definitive translations of early scientific classics. Finally, a word of praise is due to the publishers, the University of Chicago Press, whose use of large clear type and fine paper has resulted in the production of a very attractive book.

LIFE-HISTORY OF MARINE FAUNAS

Zoogeography of the Sea

By Sven Ekman. Translated from the Swedish by Dr. Elizabeth Palmer. (Text-Books of Animal Biology.) Pp. xiv+417. (London: Sidgwick and Jackson, Ltd., 1953.) 42s. net.

MARINE zoogeography is an exacting but absorbing aspect of oceanography. A critical awareness of the extent of marine investigations and an understanding of systematic zoology are first needed. But the zoogeographer should have a good knowledge of physical oceanography, climatology, submarine geology and palæontology. In Prof. Sven Ekman's "Tiergeographie des Meeres", published in Leipzig in 1935, these sciences were brought to bear on the problems of distribution: the well-reasoned synthesis which emerged needs little introduction to marine biologists.

In this very welcome English edition Prof. Ekman has revised the text and brought it up to date, and Dr. Elizabeth Palmer has made the translation from the Swedish. Here and there a sentence reads awkwardly or quaintly; but the main impression is that justice has been done to Ekman's lucid writing. There are a number of printing errors, although none is serious. On p. 368 *Japetella diaphana* is referred to as a squid: it is an octopod.

Since 1935 there have been many developments in oceanography: about a quarter of the bibliography (598 references) consists of papers published during or after that year. Reports on the work of expeditions have greatly added to knowledge of deep-water zoogeography, particularly those dealing with the investigations of the *Dana*, *Meteor*, *Discovery II*, *William Scoresby* and *Mabahiss*. Russian work in the Arctic and in the seas of the North Pacific has thrown new light on the relationships of the marine faunas.

The ecological surveys of the intertidal regions of South Africa and North America by Stephenson and his colleagues have clearly revealed the faunal components and their correlation with hydrological conditions. These more recent investigations and many others have become integral parts of the book, together with relevant developments in physical oceanography.

The assimilation of recent research has also led to a more objective approach. In the English edition there is a greater precision of method, partly seen in the increased use of analytical tables giving a measure of the degree of endemism of a fauna and other features of its composition. Ekman is careful to add that the tables also reflect present limited knowledge. But within the limitations, the tables are handled convincingly. Quite the most interesting sections—and these make up much of the book—develop from the statistical comparisons of faunas and a disciplined yet flexible use of the findings of related sciences in tracing relationships. Ekman sees a fauna as a living unit which changes with time. "The attempt, by growing refinement of method, to find out more and more of the life history of these faunas provides a particular stimulus for the zoogeographer."

Oceanography has grown rapidly since the Second World War; and the publishers, editor and author are to be thanked for the timely production of this valuable book. The "Tiergeographie des Meeres" has been a stimulating guide to many marine biologists; the "Zoogeography of the Sea" will extend this influence and provide an even broader background against which specialists can view their work. In so doing they are likely to agree with Prof. Ekman ". . . that even today, when an ever increasing specialisation is often a condition of progress, there are still sciences left which find in the opening up of frontiers and in the collaboration with other sciences the conditions for their own progress".

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CHEMOTHERAPY OF MAN AND ANIMALS

The Sulphonamides and Antibiotics in Man and Animals

By Dr. J. Stewart Lawrence and Prof. John Francis; with the assistance of Dr. Arnold Sorsby and Dr. Philip G. Scott. Second edition. Pp. xii+482+10 plates. (London: H. K. Lewis and Co., Ltd., 1953.) 42s. net.

THE discovery of the sulphonamides and antibiotics has revolutionized medical practice. Whereas sixteen years ago chemotherapy was restricted to malaria, amœbic dysentery, syphilis and a handful of tropical diseases, there is now scarcely a single bacterial infection which has not at some time been amenable to treatment. Dr. J. Stewart Lawrence and Prof. John Francis and their colleagues have set themselves the difficult task of providing a guide to the use of these new drugs in the treatment of bacterial infections in man and animals. The plan which they have adopted in this book, which is the successor to the first edition dealing with sulphonamides, is, after a discussion of general principles, to pass to the sulphonamides in general and individually, and from there to a separate chapter on drugs used