with full-page drawings by Charles W. Schwartz, including, besides the main portrait, range maps, skulls, anatomical details and other characteristics. Their beauty and accuracy remind one of his recent book *The Wild Animals of Missouri*.

The distributional maps are, according to the author, based not only on localities of records but also on the knowledge of the species' habitat requirements and the ranges of vegetation types. This method seems to be rather dangerous, for there are often ecological determinants for an animal's distribution beyond the vegetation type, although this is usually the most important.

The Mexican game law and hunting regulations are stated in two appendices. A bibliography of eight pages and a useful index increase the value of the book.

In the foreword to this work Professor Enrique Beltrán, Director of the Instituto Mexicano de Recursos Naturables Renovables, emphasizes that, in many situations, the recreational value of wild life, with its attractions for tourists and its implications for commerce, may be a higher and more productive form of land-use than the activities of agriculture, forestry and livestock production. This unfortunately is far from being realized not only in Mexico but everywhere else. Starker Leopold's book should therefore give wild life management in Mexico its rightful place in the rural economy of that country. Its conclusions might well be applied to other countries also.

K. Curry-Lindahl.

An Introduction to Animal Physiology. By W. P. Yapp. Oxford : Clarendon Press, Second Edn., 1960. 25*s*.

This second edition of a widely used text originally published in 1939, will be welcomed by students and others interested in the elements of animal physiology as distinct from human or general physiology. Although the general format has been retained, much new information has been incorporated, especially in the sections dealing with respiration, metabolism, vitamins and internal secretions, bringing the work up to date. Of particular interest are references to unusual pabulums and the way they are attacked, e.g. wax by honey-guides and keratins by clothes moths.

To the conservationist the chapters on nutrition, co-ordination of function and reproduction are of major interest, but most of all that dealing with the animal in relation to its environment.

The book is of handy size, clearly printed in a readable type

and well illustrated by diagrams. The text makes fascinating reading even to the non-specialist, as its theses are exemplified from so wide a range of animal species.

There are some minor errors from imperfect proof-reading, e.g. page 34, surely food passes down the gullet in 15 seconds, not minutes !

W. C. O. H.

THE ARCTIC YEAR. By PETER FREUCHEN and FINN SALOMONSEN. Jonathan Cape. 440 pages. 28*s*.

North-West Greenland, Baffin Land, Elsemere Island—if these words conjure up merely icebergs and barren snow-covered wastes, then you must correct your ideas with this book. You will be taken through the Arctic year month by month, each with its special attraction. In spring, with the return of the sun, comes the explosive development of the algae and diatoms upon which the whole surging abundance of the sea—fish, mammal and bird, ultimately depend. For sheer concentration of life, what can compare with the vast colonies of sea birds and the huge herds of narwhals or of white whales ? How can there be enough food for such a multitude ? Yet every species has its allotted place, encroaching but little on even its own near relatives. Consider the seals : the walrus a bottom feeder, in fact below the bottom, digging deep into the mud for bivalves : then the bearded seal, unable to penetrate the firm clay to reach the bivalves buried in it, must be content with food from the bottom itself. True, both harp and ringed seals feed on polar cod, but the latter only to a lesser extent ; its food is mainly that mass of small pelagic animals, the krill. Even bringing in the Cetacea, whales large and small, there is not overmuch competition between species.

In these coastal countries the riches of the Arctic sea provide all ; even the vegetation thrives extraordinarily where it is fertilized by colonies of sea birds. Time governs everything—the rush of plant, insect, bird and mammal to get through the whole process of reproduction during the summer, short but immensely stimulated by the almost perpetual daylight.

To me, " September " was the most interesting chapter, with its descriptions and diagrams of the migrations of bird and beast, some quite extraordinary and some which make one think how development and drainage schemes may threaten whole bird populations or even species. We read too of the varied means whereby young birds manage the great move south and