

group at the end of the Cretaceous period, without reaching any more definite conclusion than previous observers have done. He has also some interesting notes on the methods of collecting and preparing Dinosaurian fossils, and he concludes with a useful alphabetical list of those which have been found in Britain. Lists of the literature of the subject throughout the book make it a valuable work of reference for those engaged in research. A. S. W.

*The Great Design: Order and Progress in Nature.* Edited by Frances Mason. Pp. 324. (London: Gerald Duckworth and Co., Ltd., 1934.) 8s. 6d. net.

THE aim of this work is to show the plain man that the world, as we know it, is shot through and through by pattern and law, and that this implies the existence of a supreme designer and law-maker, the basis of religious faith. Its method is to bring together a series of essays, each written by an expert, in which departments of science are discussed from a modern point of view in order to bring out the prevalence of order and its implications.

The result is less satisfactory as a unified body of opinion than the editor's earlier "Creation by Evolution": there is a good deal of overlapping, for example, in the repetition of the story of radiation, protons, electrons, and so on; and there are frequent contradictions, as when the geologist takes the continents and ocean basins to be, on the whole, permanent features, while the zoologist assumes the occurrence of continental drift to explain the migrations of eels and of birds, or when the zoologist postulates for the origin of life an act of creation, while the botanist states that protoplasm was originally evolved from non-living matter. Moreover, the compression of some of the essays makes the conclusions seem far removed from the facts on which they are based, so that they must appear to a non-scientific reader as little more than a series of dogmas.

The book, however, gives simple summaries of the position of science in many fields, and the reader cannot but be impressed by the number of scientific workers who find, each in his own field, that the discoveries of science afford a rational basis on which faith may rely. There is no necessary contradiction between science and religion. J. R.

*Bumblebees and their Ways.* By Prof. Otto Emil Plath. Pp. xvi+201+11 plates. (New York: The Macmillan Co., 1934.) 17s. net.

THIS book is based upon first-hand observations carried out during thirteen consecutive seasons on the bumble bees known to inhabit New England and other parts of North America. The author is evidently an ardent and skilled field observer, and has produced a very readable and interesting natural history study. Bumble bees have not hitherto received very much attention from the biological point of view in America, although an excellent taxonomic guide is available in Franklin's "Bombidae of the New World". Dr. Plath has already written a number

of papers on bumble bees in various North American periodicals and, while the substance of this work has been incorporated in the present volume, the greater part of its contents consists, he tells us, of material not hitherto published.

The book is divided into thirteen chapters dealing with different phases in the life of these insects. The author has been very successful in adopting means of rearing bumble bees in artificial nests, and describes his methods. By this means, in conjunction with his field work, he has been able to add to what is known concerning their habits. Among the new results of his studies, mention needs to be made of the evident 'behaviouristic' differences that he brings to light among different species. These observations form the basis of his classification of the species into groups—a feature which has been a long-standing difficulty.

At the end of the book there is a useful synopsis of the common American Bombidæ, with their distribution and habits, followed by an adequate bibliography. We note that the names *Bremus* and *Bremidæ* are withdrawn by Dr. Platz, and trust that there will not be occasion for their revival.

A. D. I.

*An Introduction to the Vertebrates.* By Prof. Leverett Allen Adams. Pp. v+414. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1933.) 21s. 6d. net.

THIS is a useful and, for its bulk and within the limits the author set himself, a very comprehensive work. A slight formal description of the classificatory characters of the vertebrate groups and subdivisions is followed by more detailed discussion of the organic systems of each class, based for the most part upon selected types. The third and most important section of the book contains comparative accounts of the various anatomical systems and of specialised structures. Descriptions are concise and to the point, illustrations are abundant and clear, and the schematic diagrams, for example, of the blood circulation, give an easily grasped picture of progressive changes. Our one complaint, a minor one, is that in the pictures which illustrate the preliminary classification, no indication of reduction is given, so that a meadow-lark looks as large as its neighbour, a penguin, and a *Tarsius* larger than a hippopotamus. J. R.

*Economic Mammalogy.* By Junius Henderson and Elberta L. Craig. Pp. x+397. (London: Baillière, Tindall and Cox, 1932.) 26s.

MANY readers outside the ranks of zoologists will study this book with interest and profit, for in easy style it discourses upon almost every conceivable way in which mammals come in contact with mankind for good or ill. Its speciality, apart from the interest of its classification of mammalian economics, is statistics, and the figures, whether of meat consumption, of the slaughter of fur-bearing animals, of damage done to crops and stocks, and so on, are up-to-date and astounding. The general discussion