

In a few cases there are slips which can hardly be assigned to the printer, *e.g.* in the analysis of art. 520, but few such have been noticed. In conclusion, it may be said that in the opinion of the present writer the type of reader for whom the book is best adapted is the student preparing for a mathematical examination, such as the Cambridge Tripos, in which theory plays the principal part. It should also, however, prove a good book of reference to the physicist of superior mathematical attainments. For either of these types of readers it seems likely to be a really useful book, so far as its scope extends.

C. CHREE.

#### PETRELS.

*A Monograph of the Petrels (order Tubinares).*

Parts i., ii. and iii. By Dr. F. Du Cane Godman, F.R.S. With hand-coloured plates. (London: Witherby and Co., 1908.) Price 2l. 5s. per part.

WE welcome another instalment of the finely illustrated "monographs" in which ornithologists are gradually, if slowly, writing the history of the birds of the world. The latest of these monographs to be launched is founded on the synopsis of the order Tubinares, published by the late Mr. Salvin in the twenty-fifth volume of the "Catalogue of the Birds in the British Museum." It was Mr. Salvin's intention on the completion of that work to have issued a series of coloured illustrations representing all the species of petrels, shearwaters, fulmars, diving petrels, and albatrosses, which constitute the order Tubinares, and at the time of his death in 1897 many of the plates had been prepared. The present author has had the series of coloured plates completed, and he is now issuing them in the form of a monograph, adding such synonymy and accounts of the geographical distribution and habits of the species as Mr. Salvin originally intended, and bringing the work up to date.

Since the twenty-fifth volume of the British Museum Catalogue was issued in 1896, considerable additions to our knowledge of the Tubinares have been made. Some remarkable discoveries have been made by American ornithologists in the seas of California and the islands which lie off the south-western coast of North America, and Sir Walter Buller's supplement to the "Birds of New Zealand" has added to our knowledge of the group. Moreover, from the observations made by the naturalists to several recent Antarctic expeditions, we have learned a great deal about the breeding habits of certain well-known species, which, retiring to those inhospitable regions for the purpose of reproduction, had up to then managed to keep us very much in the dark as to the manner of their nesting. The material thus examined has enabled the author to undertake the revision of the Tubinares with some confidence. The order as at present known embraces more than one hundred species.

The first three parts of the work are now in our hands, and fully carry out so far as they go the objects set forth in the author's note. The first part deals with the smaller petrels of the following genera:—Procellaria, Halocptena, Oceanodroma, Oceanites, Gorrodia, Pelagodroma, Pealea, and Cymodroma (in

part). First on the list comes our own familiar stormy petrel—the petrel *par excellence*—of which a very good and concise history is given, including synonymy, geographical distribution, breeding, and general life habits, and a full description of the plumage of the adult and young; and this is the general plan of the work.

Twenty-four species are treated of in sixty-eight pages of letterpress, and there are twenty coloured plates. Part ii. concludes Cymodroma, and deals with twenty-four species of the large genus Puffinus, the shearwaters, in sixty-four pages, with twenty coloured plates. In this part may be noticed the great shearwater, of which, though the bird was known to Latham so long ago as 1785, and although it sometimes appears in large numbers off our own coasts, the breeding place is still unknown. It can scarcely, however, be doubted that this must be sought for in southern latitudes, and in our winter.

Part iii. concludes Puffinus, and treats of four restricted genera and twenty-three species of the extensive genus *Cearelata*. Among the former we find the silvery-grey fulmar of the southern oceans, which in general appearance so much resembles the fulmar of the north that Latham and Gmelin described it as a variety of that species. Also the great dark-coloured petrel familiarly known to sailors as the Cape Hen. The casual occurrences of *Cearelata haesitata*, *Ce. brevipes*, and *Ce. neglecta* in the British Islands are wonderful instances of the wandering habits of these small fulmars. The accounts given of the breeding and general life habits of these ocean wanderers, the gliding flight of which has so often beguiled the monotonous hours of the passengers on liners, are very interesting; and those who often have occasion to go on long voyages (in the southern seas especially), and take an interest in the birds they see, would do well to study the plates, at all events, in this fine work, and so have a chance of learning (roughly speaking) the names of the petrels which may on some days be seen from the deck in great numbers. But specimens of these birds are very rarely secured, and no opportunity should be lost of preserving any that by a lucky chance should come into the traveller's hands; for some species are known from single specimens only, and others from but little more.

The work will be completed in five quarterly parts. It is beautifully printed on rag paper, and we need only say of the plates that they are by Mr. Keulemans, and drawn and coloured under the most careful supervision. This means that they are as near perfection as it is possible for ornithological plates to be.

O. V. A.

#### OUR BOOK SHELF.

*Das Weltgebäude, Eine gemeinverständliche, Himmelskunde.* By M. Wilhelm Meyer. Zweite, umgearbeitete Auflage. Pp. xii+691. (Leipzig and Vienna: Bibliographisches Institut, 1908.) Price 16 marks.

TEN years ago we read the first edition of this work with considerable satisfaction, and the examination of the second edition has been interesting, since it shows