

simplicity of style, may combine to give the impression to a meteorologist who may casually glance at it, that he has before him one of those entertaining little handbooks in which the presence of numerous inaccuracies is regarded by the author, if he should happen to be aware of them, as a matter of small importance, seeing that few readers will be likely to detect them. A more careful perusal of the book will dispel this impression: not only will he find a high standard of accuracy, but he will see also that a serious effort has been made, and with a considerable degree of success, to give a picture of the development of meteorology as a branch of physics and some suggestion of the lines along which it may advance in the future.

There is no account of practical weather forecasting—a wise omission in view of the size of the book and the predominant part played by un-systematised experience in the 'science' of weather forecasting; on the other hand, a whole chapter is set apart for the important subject of the reception of solar radiation by the atmosphere. The general and local circulations of the atmosphere are admirably dealt with, having regard to limitations of space.

Some knowledge of physics is essential to anyone who wishes to appreciate fully the later chapters, but these chapters should nevertheless be very instructive to those whose only knowledge of physics is 'picked up' in the earlier chapters.

The printing and the illustrations of cloud forms and lightning are both exceptionally good, and the work can confidently be recommended for educational purposes.

*A Handbook of the Birds of Iceland.* By Masa U. Hachisuka. Pp. v+128+7 plates. (London: Taylor and Francis, 1927.) 12s. 6d. net.

THE Honourable Masa U. Hachisuka is a very young ornithologist, but his work—his first, we understand, of any magnitude—shows that he is keen, industrious and methodical, and, though it is an ambitious attempt for a first work, there is little doubt it will prove most useful. We congratulate the author, not only on his pluck in undertaking it, but also on the result itself.

The author admits a total of 141 birds actually found, either as straggler, regular visitor, or resident in Iceland. A few of the birds mentioned he admits as 'non-proven,' and one new species, *Calidris maculata*, the American Pectoral Sandpiper, he adds as new to the Iceland list. The author's remarks on the various geese sum up our knowledge of these birds to date and are interesting. He considers it reasonable to believe that the pink-footed goose breeds in Iceland, and, though he admits the Bean goose on very slender evidence, probably indeed quite insufficient, he agrees that it never breeds there.

The photographs with which this little book is fully illustrated are quite good, though we fear that the plate giving the comparative size in diagram form of the eggs of ducks and geese will not be of very much use, as the overlapping of dimensions in big series of these eggs is very great. We shall

look forward to further works on birds by Mr. Hachisuka, and recommend this, his first, to all those who intend to visit Iceland to study ornithology. It summarises in a compact form much scattered information and will save Icelandic visitors an immense amount of research and trouble.

*The Crustaceans of South Australia.* By Herbert M. Hale. (*Handbooks of the Flora and Fauna of South Australia*, issued by the British Science Guild (South Australian Branch), and published by favour of the Honourable the Premier.) Part 1. Pp. 201. (Adelaide: Harrison Weir, 1927.) 5s.

FULL descriptions and good illustrations of all the South Australian Malacostraca are given in this useful book. It is intentionally written in a popular way, and quite untrained naturalists should be able to identify any species, whilst the specialist is greatly helped in having this book for reference. The malacostracan fauna of South Australia is large and of great interest, and obviously many problems are only waiting for the worker to elucidate them. This seems specially the case with the life histories, so little being known about the larval forms and the few notes given suggesting so much. Some of the Reptantia hatch in a very late stage of development. It is well known that members of the family Potamonidæ hatch as forms very like the parent, the truly larval stages taking place within the egg. In South Australia we find other crabs with the same peculiarities. Thus some of the Dromiidæ are known to hatch as tiny crabs, having no free-swimming stage and sheltering under the body of the parent; other species with very large eggs are probably similar.

Notes on habits and biology make the book readable as well as valuable, and the low price places it within reach of anyone interested in the group.

*Proceedings of the London Mathematical Society.* Second Series. Vol. 26. Pp. ii+558. (London: Francis Hodgson, 1927.) n.p.

THIS volume of *Proceedings* maintains the usual high standard of the London Mathematical Society's publications. Of the thirty-two papers it contains, twenty deal with various aspects of the modern theory of functions, four with geometry, and three with applied mathematics. This preponderance of function theory should be regarded more as an indication of the tendency of present-day mathematical research in Great Britain than as a sign of the relative importance of the subject. When Cayley and Sylvester, Clifford and Smith, dominated mathematical development, papers on geometry and invariants were paramount, while recent volumes of the *Transactions of the American Mathematical Society* contain a large proportion of papers on non-commutative algebra, a subject which has scarcely been touched by British mathematicians. Meanwhile, the higher function theory is enjoying a protracted run which is likely to continue until there arises an outstanding leader inspired to direct research activities into some other branch of pure mathematics. W. E. H. B.