

Fluorescence and Phosphorescence

By Dr. E. Hirschlaff. (Methuen's Monographs on Physical Subjects.) Pp. vi+130. (London: Methuen and Co., Ltd., 1938.) 3s. 6d. net.

THIS new addition to Methuen's series of monographs on physical subjects makes a valiant attempt to cope with the whole of the subject of luminescence, a task particularly difficult at the present time in view of the rapid advances taking place. The book may, on the whole, be recommended to the general reader. Those already familiar with the subject are likely to discover a number of inadequacies. One feels that the directions of most rapid progress at the present time have not been sufficiently emphasized, and it might have been a good deal wiser to confine the book to one of the more important aspects of the subject. In the result there are twelve chapters, of which the first and last are the worst. Chapter i, subtitled "The Experiments", is almost meaningless in its narrow limits of three pages. Such "experiments" as are here mentioned could easily have been brought naturally into line in the later sections of the book. Chapter xii is concerned with technical applications. The most important application of luminescent solids is in discharge devices, and Dr. Hirschlaff's treatment of this aspect cannot be considered as more than sketchy.

The emphasis of the book may be gathered from the fact that seven of the chapters are given up to the problems of fluorescence in gases, liquids and solutions. Two chapters deal specifically with luminescence in solids, and there is also an account of 'cathodo-luminescence'. It is a pity that the references to original papers given at the foot of each chapter are almost entirely confined to Continental workers.

J. T. R.

Hydroids of the Pacific Coast of Canada and the United States

By C. McLean Fraser. Pp. 208+44 plates. (Toronto: University of Toronto Press, 1937.) 2.50 dollars.

TO open this book is to be at once reminded of Hincks' "Hydroid Zoophytes", now seventy years old, or of Dr. George Johnston's book of a generation before, both of them beloved by innumerable naturalists. Here, in like manner, Prof. McLean Fraser has produced, in handy form and copiously illustrated, an account of the rich hydroid fauna of the Pacific Coast, from California all the way to Bering Sea. We are struck, at first sight, by the curious likeness of this fauna to the British fauna; many species are identical, such as Linnaeus's *Obelia geniculata* and *Sertularella polyzonias*, or Ellis and Solander's *Halecium muricatum*. Others, not so familiar as these, such as the various species of *Selaginopsis*, carry an Arctic fauna round the world from the Murman Coast and the Siberian Sea. But there are not wanting many others, strange to our European seas. The book is an interesting one to the naturalist at home, and will become an indispensable one to the many naturalists out west by the Pacific.

D. W. T.

A Hand through Time:

Memories—Romantic and Geological; Studies in the Arts and Religion; and the Grounds of Confidence in Immortality. By Dr. Edward Greenly. Vol. 1. Pp. xvi+378+60 plates. Vol. 2. Pp. viii+379-774+15 plates. (London: Thomas Murby and Co., 1938.) 18s. net.

DR. EDWARD GREENLY is best known as the author of a comprehensive memoir on the geology of Anglesey and of a geological map of that island, both published by the Geological Survey. Practically the whole of his long life has been devoted to geological research and, during his wife's lifetime, he owed much to her helpful co-operation. A large part of his book is devoted to a character study of Mrs. Greenly, with which is interwoven the author's autobiography. This account of a long life's companionship will interest especially Greenly's wide circle of friends and acquaintances.

The book is somewhat discursive, but it includes a chronicle of its author's scientific activities, and there are many interesting geological reminiscences. Dr. Greenly's career as a geologist commenced in Scotland in 1889, where he was attached to the Geological Survey for a few years. There he came into contact with Peach, Horne, Clough and other geologists of the period, and he gives an interesting account of survey work in Scotland at that time. On leaving the Survey he proceeded to Anglesey, where he spent twenty years unravelling the complex geology of that island. The account of this masterly piece of research should prove of interest to all geologists, whether or not they are acquainted with its author.

Physical Geography for Indian Students:

being a completely revised and enlarged edition of Simmons and Stenhouse's "Class-Book of Physical Geography". By Dr. Cyril S. Fox. Pp. xii+564+5 plates. (London: Macmillan and Co., Ltd., 1938.) 7s. 6d.

ALTHOUGH primarily intended for Indian students, this revised edition of a well-known text-book makes a wider appeal. The coloured maps which illustrate various aspects of map reading have been chosen from the Survey of India, and many of the examples of physical processes have been chosen from India, but the book as a whole covers all the groundwork of physical geography, including the distribution of climate, plants and animals, and should be useful in all English-speaking lands as an introduction to geography. One of the greatest difficulties confronting the writers of an elementary book on these subjects is the avoidance of over-simplification in the discussion on problems of climate. It is easy to generalize and difficult to avoid complexity. On the whole these pitfalls have been well avoided, but a little revision would not be amiss on the subjects of cyclones, world distribution of atmospheric pressure and ocean currents. On the whole, however, the book is admirable and the many exercises are a valuable feature.

R. N. R. B.