

appendix containing the detailed analysis of many of the formulæ quoted in the general text.

Although the treatment of the subject is essentially mathematical, the actual formal analytical work is not allowed to hide the predominant physical character of the theories discussed. In the later sections, for example, the individual problems are worked out quite generally, but only in sufficient detail to bring out the physical significance of the results derived from them. The result is that the work provides very stimulating reading, whilst in comprehensiveness it would be difficult to improve upon in such a limited number of pages.

To the present reviewer this work is specially interesting, in that it shows a definite break in the continental school of thought from the Helmholtz-Lorentz ideas on this subject, consummated in the various appropriate articles in the "Encyclopädie der mathematischen Wissenschaften" (Bd. 5). Thirty-five years ago Larmor pointed out certain errors and inconsistencies in this form of the theory and drafted the outlines of a modification, but his remarks remained unheeded, and the theory has held almost universal sway. At long last, however, it seems that someone else is realising that the usual conceptions of magnetic force and induction are really in the reverse order to what they ought to be, that the expressions given in all the usual treatises for the stresses in a polarised medium are not those derived in a really consistent theory, and that certain apparent discrepancies of sign which occur in discussions of magnetic energy are not discrepancies at all and do not need explaining away.

Dr. Frenkel's book is not completely satisfactory on these points, but at least it is sufficiently different from the older accounts to make the reader hesitate and wonder why; and if he does, he will have little difficulty in filling in the lacunæ himself. For this and many other reasons the work can be strongly commended to all those who are still interested in classical electrodynamic theory in its modern form.

G. H. L.

#### Our Bookshelf.

*Vergleichende Anatomie des Nervensystems der wirbellosen Tiere: unter Berücksichtigung seiner Funktion.* Von Dr. Bertil Hanström. Pp. xi + 628. (Berlin: Julius Springer, 1928.) 76 gold marks.

THE introductory general part of the work contains accounts of the phylogeny of the nervous elements, of the inter-relations of the various types of cells—sensory, intermediary or associative, and motor—and of the cytology and histology of the nervous tissues of invertebrates, and a discussion of the

neurone theory. The author states that his observations on the eyes and optic ganglia of arthropods afford no evidence of the continuity of neurones. In the special part each phylum is considered in turn, beginning with the Protozoa.

Although the nature of the neuromotor system of ciliates is as yet not definitely determined, the author is inclined to the view that it is a conducting system. Turning to coelenterates, he gives a careful account of the nervous elements, our knowledge of which is admittedly not satisfactory. The observations of Bozler on the bipolar and multipolar cells of the ectodermal nerve plexus of *Rhizostoma* are cited as clear evidence that—in spite of the frequent reference by many authors to the existence of a nerve net in coelenterates—the connexion between one neurone and another in this case is not by continuity but by contact (contiguity) of the fine terminal branches. For each of the other groups of invertebrates a summary is given, first of the general anatomy of the nervous system of selected examples, and then of the histology and, so far as it is known, of the topography of the neurones, concluding with a general survey of the structure, and a discussion of the function of the nervous system of the group with adequate references to the more important memoirs. Useful comparisons are made between different types of nervous system, for example, of Turbellaria and Annelida, of Arthropoda and other segmented invertebrates, and of the brain of insects, myriapods and Crustacea. An index of subjects and another of the genera and groups are appended.

The work is excellently produced and the author has spent great pains on the illustrations. Most of these have been carefully selected from published memoirs, but more than a hundred are new—chiefly photomicrographs of the author's preparations. Such a volume could have been written only by one who is familiar with the scattered literature of the subject and brings to its analysis the specialised knowledge of an investigator in the same domain. The author is to be congratulated on his adequate treatment of a difficult subject.

*Oddities: a Book of Unexplained Facts.* By Lieut.-Comdr. Rupert T. Gould. Pp. 336 + 8 plates. (London: Philip Allan and Co., Ltd., 1928.) 12s. 6d. net.

THE inexplicable is always fascinating, and here is both a humorous and a serious study of such oddities. The zoologist can speculate as to the 'Devil' who came out of the sea and impressed his 'Hoof-Marks' on the Devon coast. Crosse's Acari, produced by long-continued electrical action, go far beyond the bacteria and slimes produced by professional spontaneous generationists. The demons or ghosts which come from unknown realms to interfere with coffins and their contents, as at Barbados, certainly merit the attention of a 'learned' society and of some 'scientists'. The possibility of the reincarnation of such people as the Berbalangs of the Philippines is believed by all wild peoples. The Wizard of Mauritius of the eighteenth century, who could foretell the arrival