

searches of Mr. Parker, Prof. Huxley, and antecedent Continental authors are ignored, and the essential affinity between the embryonic mammalian skull and its permanent condition in Batrachians and cartilaginous fishes is passed over in silence.

Similar incompleteness is to be found in treating of single organs in single classes. Thus, in speaking of the swimming bladder, its homology with the lung is only faintly alluded to in terms hardly of approval, and nothing is said of its interesting condition in *Polypterus*.

As to Birds, the inquirer who consults this manual only will fail to acquire any really adequate knowledge of the class, from the absence of all description of its two very distinct existing types—the struthious and the carinate birds. As regards the omission of any notice of the *Archæopteryx*, it may be pleaded that it is a fossil form; still a manual of zoology must be reckoned as singularly incomplete which fails to call attention to a form so importantly aberrant.

In the highest class of Vertebrates we miss any adequate statement of the very great gap which exists between the *Monotremes* and the higher *Mammals*.

Prof. Flower's careful labours regarding the *corpus callosum* are utterly ignored. Thus we read, "In those *Marsupial* tribes that form the connecting links between the oviparous and placental *Vertebrata*, the brain still exhibits a conformation nearly allied to that of the bird, and the great commissures required in the more perfect encephalon are even yet deficient; but in the simplest brain of a *Placental Mammifer* the characteristic differences are at once apparent." The student is left entirely in the dark as regards the large anterior commissure of the lower forms which compensates, as it were, for the reduction of the *corpus callosum*, while presenting such a contrast to the brains of birds and reptiles.

The facts here mentioned will enable the zootomically instructed reader to appreciate the defects which unhappily characterise this last production of Prof. Rymer Jones. As we have said, they do not prevent the volume being replete with both interest and instruction, and a large number of readers may study it with advantage, though it is not calculated for young students who wish to be *au courant* with the latest views and those received by the most esteemed biologists. The prevailing character of the book may be summed up by saying that we have in it almost a maximum of physiological anatomy with a minimum of morphology.

Turning to the much smaller work of Dr. Nicholson, we feel refreshed by coming in contact with a body of more modern views and less-known facts put forth concisely and in a form really useful to the student. There is a copious glossary, the utility of which will far more than compensate for some inaccuracies. There is also (what no book of the kind should lack) an alphabetical index, the want of which will be sadly felt by those who use Prof. Rymer Jones's volume. Nevertheless, Dr. Nicholson's manual, though serving as a stop-gap to supply an urgent need, is not, by any means, all that could be desired. Some of the very glaring omissions we have noticed in the large work are also defects in the smaller one. Thus we have again the absence of any reference to the *Rhizocephala*, but that larval *Ascidian* structure is noticed "which has been paralleled with the *chorda dorsalis* of *Vertebrates*."

The *Brachiopoda* are relegated to the vicinity of the *Polyzoa*, and removed from the *Mollusca* proper. The *Batrachia* are associated with the fishes, the *Reptila* with the Birds. Man is put back into the order *Bimana*, which appears to us a mistake when he is considered from the zoological point of view only. Investigations and discussions of recent date have abundantly demonstrated that in bodily structure he differs far less from the higher "so-called" *Quadrumana* than do these latter from the lowest members of that order. In connection with recent investigations it must be remarked that Dr. Nicholson does not sufficiently acknowledge how largely his work reposes on the labours and teachings of Prof. Huxley. That Professor's system and arrangements are almost entirely adopted, even to the location of the class *Echinodermata* in the sub-kingdom *Annuloida*.

It is much to be regretted that the last-named eminent naturalist has not ere this given to the world the results of his labours in his own clear and terse language, and published a model handbook for the use of students. In the absence of such a desideratum we feel sure that Dr. Nicholson's work will, for a time, be deservedly popular and widely used. More than this we cannot, however, anticipate for it without careful and copious additions and emendations.

OUR BOOK SHELF

A History of the Birds of Europe, including all the Species inhabiting the Western Palæarctic Region. By R. B. Sharpe, F.L.S., &c., and H. E. Dresser, F.Z.S., &c. Part I. (London: published by the Authors.)

THIS work will supply a great want, since it will give in a convenient form and at a moderate price, a really good coloured figure with a full and accurate description and history of every European bird. The talent of Mr. Sharpe for publications of this nature has been sufficiently shown by his beautiful work on the kingfishers, which we have already noticed, while his colleague, Mr. Dresser, is an enthusiastic student of European birds. In *M. Keulemans* they have secured an artist who bids fair to rival *Wolf* in the delineation of bird character; and if the work maintains the standard of its first part (and we have every reason to believe it will do so), its subscribers will have cause to be satisfied. We find in the part now issued eight species of birds beautifully figured, and about forty-six pages of letterpress, crowded with information from every available source on the habits and distribution of the species. The series of charming pictures of the most graceful of all living things which this work will give, must render it a general favourite; and it will assuredly help to extend the growing taste for natural history, by rendering it comparatively easy for the traveller or resident on the Continent to determine the species and refer to an outline of what is known about any bird he may meet with during his rambles in the country or in the markets. To the home naturalist, also, it will prove far more interesting than a work on British birds alone; for he will here find how far over the globe his feathered friends are accustomed to range, and will make the acquaintance of many members of their several families who, although they live permanently abroad, yet retain a strong likeness to their English relations. We heartily wish Messrs. Sharpe and Dresser success in their bold and laborious undertaking.

A. R. W.

A Treatise on the Action of Vis Inertia in the Ocean. By W. Leighton Jerdan, F.R.G.S. (London: Longmans.)

THIS book is a lamentable instance of misconception and error. It is founded on a denial of the first law