

bilities of a scientific ally, and we have pleasure in testifying that he does his work well, and that he does not overdo it.

THE MYRIOPODS OF AUSTRIA

Die Myriopoden der Oesterreichisch-Ungarnischen Monarchie. 2^{te} Hälfte, "Die Symphylen, Pauropoden, und Diplopoden." Von Dr. R. Latzel. (Vienna: Hölder, 1884.)

WHEN we say that the second volume of Dr. Latzel's work is in every way equal to the first we are according to it high praise. The first volume, that which dealt with the Chilopoda, has fully proved itself to be indispensable to every student of the Myriopoda, and it seems to us certain that this second volume, dealing with the other orders, must soon be accorded an even more important place in the literature of this subject. Nine years of close attention to the study of the myriopods have enabled Dr. Latzel not merely to complete a monograph of the species inhabiting his native country, but to complete it in such a manner that he has written a book which must be useful to the student of the myriopoda of any country. Not only has Dr. Latzel given minute descriptions of some 170 species, but he has also furnished tables which make it a matter of ease to determine the genus of any myriopod.

There has been unfortunately among those who have specially devoted attention to myriopods a tendency to create numerous new species on very insufficient grounds. By relying solely on characters of importance, Dr. Latzel has in great measure escaped this tendency. It is true that in the volume now under notice he has described a new genus and thirty-five new species. Possibly further observation may reduce this number; but when we remember the extent of area embraced by the Austro-Hungarian Empire, and the little attention which, comparatively speaking, has been paid by naturalists to myriopods anywhere, we must admit that thirty-five is no excessive number of new species; indeed, those who are familiar with the writings of others who have described myriopods must feel thankful that it is so small. A careful synonymy has been given of each species described; this is one of the most useful features of the book, as in this part of his work Dr. Latzel seems to us to have been singularly successful. It can have been no easy task to reduce to order the bulky mass of existing nomenclature; but Dr. Latzel has spared no pains in examining and comparing the types, generally insufficiently described, of his predecessors. It is much to be wished that some capable observer would take in hand to examine the types of the earlier English describers of myriopods, especially with regard to the Chilopoda described by Newport, and compare them with the types of Continental writers, for, so we fancy, the synonymy would be yet further reduced to order. Here we may refer to the only point in nomenclature which we regret in Dr. Latzel's book. He has adopted the specific name *venustus*, Meinert 1868, for an animal which Dr. Latzel evidently suspects to be, and which we have no doubt is, the same as that described by Leach in 1814 as *Julus pulchellus*.

One admirable feature of this work is that, where possible, full descriptions are given of the young stages of

each species. As to the details of the work there is not much room for criticism. Dr. Latzel has embodied in his work the results of all recent researches into the minute anatomy of the myriopods. Embryology, indeed, has not received a very large share of attention, but references are given to all writings on the subject. Dr. Latzel differs from some American authorities in looking on Scolopendrella as a true myriopod, and places its order Symphyla as intermediate between the Chilopoda and the Pauropoda. We may here note that Dr. Latzel agrees with Menge in considering those organs which Ryder has described as tracheæ in Scolopendrella, as being merely chitinous supports for muscle-attachment. These are the same organs which Wood-Mason (*Ann. Nat. Hist.* [5] xii. 53) considers are of the nature of segmental organs.

A short notice of fossil myriopods is given, based chiefly on Scudder's researches into the fossil species of America. Scudder's conclusion seems to us to be in many points erroneous, and at any rate to be premature and based on insufficient knowledge, but as no fossil myriopods have yet been found in Austro-Hungary we can only be thankful to Dr. Latzel for dealing with fossil forms at all. The same must be said with regard to the notice of the order Malacopoda. No species of Peripatus has yet been discovered in Europe, but, though we may not agree with him, it is interesting to know that one so qualified to judge as Dr. Latzel, looks on Peripatus as forming an order equivalent to the other orders, the Chilopoda, the Symphyla, and the Diplopoda. A most useful bibliography, brought down to the date of publication, is comprised in the work. The execution of the sixteen plates, showing morphological details, is excellent in every way.

OUR BOOK SHELF

Examples in Heat and Electricity. By H. H. Turner. (London: Macmillan and Co.)

THIS is a Cambridge collection of problems and riders extracted mainly from the Smith's Prize, Tripos, and College papers of the last dozen years. The compiling (for there is nothing to be called authorship) has been, on the whole, judiciously done; and the printing is unusually clear and accurate, considering the complexity of many of the formulæ. The book is designed primarily as a help to candidates for mathematical honours, and will undoubtedly prove useful to them; possibly, perhaps, to a few private students.

But to the natural philosopher the book presents some points of curious interest. For, in these seventy pages alone, may be found (by all who know the subjects) materials for a very complete examination of one important part of the Cambridge system, alike in its present condition and during its recent development. Here and there we detect at a glance the lion-claw of the true physicist, and can, unhesitatingly, write against a question the name of Stokes, Thomson, Clerk-Maxwell, &c., so strongly marked is the individuality of these men:—who *think* in physics, thus propounding nothing unphysical; and who use mathematics as a necessary instrument of expression, neither courting nor shunning mere technical difficulties. Each of their questions stands out like a green oasis in a sandy desert! The rest of the contents (except what is but thinly-veiled "book-work") is mainly the work of *Examining Mathematicians*—the men who use physical facts (or fancies) as mere pegs on which to hang complex catenaries of formulæ; to whom $\phi t = Rv$ would come quite as naturally and as usefully as the laws of Boyle and Charles; the men who can *explain the result* when