the work, bear evidence of having been selected for the purpose of gradually and systematically leading the student to do some independent thinking and original work. From every point of view this elementary work on 'Plane and Solid Geometry' is a commendable text-book.　　　　　　M. F. O'REILLY.

MANHATTAN COLLEGE,
　NEW YORK CITY.

*Zoology: An Elementary Text-book.* By A. E. SHIPLEY, M.A., and E. W. MACBRIDE, M.A. (Cantab.), D.Sc. (Lond.). New York, The Macmillan Company. 1901.

This is a neatly gotten up general zoology of xxii and 632 pages, with 349 text figures. The text is divided into 23 chapters, of which the first is an introduction of 12 pages briefly reviewing the properties of living things and defining a number of general terms and phrases. The remaining pages are apportioned in order as follows: Protozoa 27, Cœlenterata 29, Porifera 7, Introduction to the Cœlomata 6, Annelida 28, Arthropoda 87, Mollusca 39, Echinodermata 40, Brachiopoda 6, Polyzoa 5, Chætognatha 4, Hemichordata (*Balanoglossus*) 5, Cephalochordata (*Amphioxus*) 14, Urochordata (Tunicates) 9, Craniata 259, Platyhelminthes 21, Nemertinea 5, Rotifera 8, Nematoda 6, Index 16.

Putting aside likes and dislikes, one must admit that this is a pretty fair distribution. We cannot, however, see what is gained by considering the Cœlenterata before the Porifera, and the Flatworms, Roundworms, Nemerteans and Rotifers after the Mammals. Logical and natural sequence of generalizations is not without distinct value and interest, and from this point of view such an apparently insignificant matter of detail as intervening the Cœlenterata, or any other group, between the Protozoa and Porifera becomes important.

On the whole, the treatment of the phyla is good. In each group of animals some more or less representative form is described in considerable detail, and other forms of interesting habits or having a bearing upon some principle or generalization are noted. The systematic tables avoid the shoals of details and briefly characterize only the phyla, classes, subclasses, orders and suborders. Under the final division of the group considered one to three genera are named as examples. The book being an English one, we are not surprised to see American forms somewhat slighted. The nomenclature is not always the most modern, but that is a matter of such minor importance in an elementary text that it may be overlooked. In some respects the authors have not always lived up to the excellent principles laid down in the preface. With them we believe technical terms and phrases should, so far as practicable, be elucidated in connection with the first presentation of forms illustrating them. We naturally expect to find radial symmetry noted in connection with the Cœlenterata, but it is first mentioned on page 80 in the introduction to the Cœlomata. As a rule the principle is lived up to in good shape. The very limited space given to embryology and physiology is in our opinion a real defect. It would have been better to make room for more of this by cutting out portions of the general accounts. We also believe that taking up a phylum by beginning with a consecutive account of some form as a type is the proper plan for an elementary text-book. In this respect the treatment of the Arthropoda, which is comparative, is inferior to that of the Annelida and other phyla.

To write a good text-book on zoology is no easy task, and to write one acceptable to every one is an impossibility. The most that should be expected of a text-book is positive and continuous assistance to teacher and pupil. Successful teaching lies with the teacher and not in the text-book.

The book before us is well gotten up. The typographical work is good, the figures as a rule are clear and the page is clean and inviting. While in some respects it still leaves room for improvement, we consider it one of the best and most worthy of recent elementary text-books on zoology.

　　　　　　　　　　HENRY F. NACHTRIEB.

*Gustav Theodor Fechner.* Rede zur Feier seines hundertjährigen Geburtstages gehalten von Wilhelm Wundt. Leipzig, Engelmann. 1901.