

For the work itself we have only praise. It is an important contribution to comparative physiology.

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*A Course in Invertebrate Zoology.* A Guide to the Dissection and Comparative Study of Invertebrate Animals. By HENRY SHERRING PRATT, Professor of Biology at Haverford College and Instructor in Comparative Anatomy at the Marine Biological Laboratory of the Brooklyn Institute of Arts and Sciences at Cold Spring Harbor, L. I. Boston, Ginn & Co. 1902.

Dr. Pratt's 'Invertebrate Zoology' is strictly a laboratory book, intended to give the student all the information and directions which are needed for the intelligent laboratory study of animals, and nothing more. In this the author has as a rule succeeded admirably. His attempt is to give such practical directions that the student can go on with his work profitably without having an instructor at his elbow. In carrying out this attempt he has not hesitated to give directly such information as is necessary to enable the student to do the work intelligently, and has not attempted to disguise his information under the form of questions—a ruse which has proved so disfiguring to many of the recent laboratory manuals. The absence of pedagogical fads is in fact noticeable and refreshing. The information given is chosen judiciously to accomplish the purpose for which it is intended. There are no figures in the book, as the laboratory work takes largely the form of drawing the careful dissections made, and the author has doubtless experienced the strong tendency of students to imitate the figures of the text. Commendably explicit directions are given for making these drawings.

The plan adopted is to study each one of the larger groups of invertebrates as a whole, several of its representatives being dissected in such a way as to bring out relationships. The first group taken up is the Arthropoda, including study of a wasp, a beetle, a grasshopper, a caterpillar, a centipede, the crayfish or lobster, a crab, a sow-bug, an amphipod,

*Caprella*, larval decapods, a copepod, *Daphnia*, and a nauplius larva. Somewhat less extensive studies are undertaken of the Annelida, the flatworms, Bryozoa, Mollusca, Tunicata, Echinodermata, Cnidaria, sponges and Protozoa. While the directions are comparative, the author has tried to make those for each organism complete, so that every teacher may take up the forms in such order as he chooses. Doubtless most teachers would desire to modify the directions in some points to suit their own methods of work; a lack of precision to be noticed in some cases in the directions for the dissection of some of the more difficult systems of organs may thus be remedied. The main body of the book is followed by an outline of animal classification and a glossary of the terms used in the directions.

The book will certainly be found very useful both to teachers of invertebrate zoology and to those attempting without the aid of a teacher to obtain some practical knowledge of the anatomy of invertebrates. While the well prepared teacher can usually work best with laboratory directions which he has himself prepared, even this class will find the book suggestive and helpful.

H. S. JENNINGS.

ANN ARBOR, MICH.,

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#### SOCIETIES AND ACADEMIES.

##### GEOLOGICAL SOCIETY OF WASHINGTON.

At the 141st meeting of the society, held in the assembly hall of the Cosmos Club, Wednesday evening, March 25, 1903, three interesting papers were presented.

Under the title 'Statics of a Tidal Glacier,' Mr. G. K. Gilbert said in part:

"An iceberg floats in sea water with about seven eighths of its mass submerged. A glacier entering an arm of the sea with a depth less than seven eighths the thickness of the ice continues to rest on the bottom. In the discussion of the origin of fiords it is generally assumed that such a glacier is partly sustained by the sea water, and that the rock bed is to the same extent relieved of ice pres-