

BOOK NOTICES

Fossil Brachiopods.

This extremely important work, which was started to include all Paleozoic brachiopods but because of the very immensity of the subject has had to be confined as yet to the genera of the suborders Orthoidea and Pentameroidea, is divided into five parts with an introduction and an appendix. Part I concerns itself with definitions of Brachiopod terms, a most needed assemblage. Part II considers the morphogenesis or evolution of form. Part III is the morphology of the Orthoid shell. Part IV describes and discusses the genera of the suborder Orthoidea, which are divided into 3 superfamilies, 23 families, of which Finkelburgiidae and Tropidoleptidae are new, 18 subfamilies, 97 genera including Pomatotrema Ulrich and Cooper, and Clinambon, both new. With these numerous genera are 9 species of which 6 are new. Part V considers the genera of the suborder Pentameroidea, which are divided into 2 superfamilies, 6 families, 2 subfamilies, and 31 genera. In this part we find the morphology, generic and evolutionary trends of the suborder considered. The appendix considers the superfamily Rhychonellacea with 2 genera.

This excellent memoir represents the type of work which is so much needed to clarify the superabundance of names which are always appearing. This represents a study of the cream of the material gathered by Schuchert during his long period in Paleontology. Some 20 tables show the authors conception of the evolution trends of the genera and obscure points are illustrated by the text-figures. The Plate A illustrates Brachiopod morphology and the other 29 plates containing about 825 figures are of various specimens and show the excellence of the material studied.

It is a book that should be available in all Paleontological Libraries. My only regret is that more genera could not be treated and we hope that at a future date the authors will be able to make additional studies of the rest of the Paleozoic Brachiopods.—WILLARD BERRY.

Brachiopoda Genera of the Suborders Orthoidea and Pentameroidea, by Charles Schuchert and G. Arthur Cooper. Published as *Memoir of the Peabody Museum of Natural History*, Vol. IV, Part I, pp. i-xii, 1-270, Pls. A, 1-29, Tables 1-20, Text Figs. 1-36, 1932. Size 9½ x 12. \$7.00.

Physical Geology.

This new text to replace that of Pirsson's should prove even more popular than the one it replaces. The manner of joint authorship in which each author handles that which lies most within his field coupled with careful editing makes for a text which does not unduly stress certain parts at the expense of other parts. The balance of the various chapters in amount and detail is excellent. Following each chapter is a list of "reading references" with a short evaluation of each. From the standpoint of illustrations this new text far surpasses the others. The illustrations are plentiful and well chosen. They are both half tones and line cuts of both the plane and block variety. The well selected use of aero photographs is to be commended on as they give the reader at a glance a comprehensive view of large areas. This is especially true in the case of glaciers and shore forms where land photographs fail to tell the entire story. An appendix on Minerals, one on Rocks and a third on Topographic maps should prove valuable as the student should have this information condensed in one place and not have to dig it out of several hundred pages of text.

This text appears to be easily "teachable" and is most certainly easily "readable."—W. BERRY.

Text-book of Geology, by C. R. Longwell, A. Knopf, and R. F. Flint. Part I. *Physical Geology*. 514 pp., 341 fig. New York, John Wiley and Sons, 1932. \$3.25.

Rocks.

The author has done more than write "a combined text and laboratory guide" in this book. In the first part he deals with various criteria and methods; part II is devoted to the petrography of igneous rocks (114 pages); part III to the petrology of igneous rocks (117 pages); part IV to petrography of sedimentary rocks (45 pages); part V to petrology of sedimentary rocks (45 pages); part VI to petrography of metamorphic rocks (35 pages); part VII to petrology of metamorphic rocks (68 pages); and part VIII to minerals and selected readings (62 pages). Other selected readings accompany each chapter.

Geologists and students should welcome this book. Between its covers the three great groups of rocks are dealt with in a manner yet to be improved upon. Geologists should feel extremely fortunate that a man of Grout's experience could find time to put into one book, in such an expert manner, the results of his years of research and study. Anything but the most enthusiastic terms fail to express the quality of this great contribution. The author and publishers are to be congratulated on the production of this superlative work.—E. W. BERRY.

Petrography and Petrology (A Textbook), by Frank F. Grout. 522 pp., 265 ill. New York, The McGraw-Hill Book Co., 1932. \$5.00.

The Physiology of Bacteria.

This is the title of a recent book by Prof. Otto Rahn. The word bacteria is used by the author not in its narrow taxonomic sense, but to include the yeasts as well. In fact the physiology of the yeasts occupies a prominent place in the discussions. Following the Preface and Introduction, the book is divided into four main parts, with the following headings: Endogenous catabolism, Energy supply of the cell, Growth, and Mechanism of death. Each of the last three parts is subdivided into a number of sections. A practical feature is the brief summary at the end of each chapter. A great deal of experimental data, much of it from original investigations by the author, is presented in the form of tables and graphs. There are in all 42 figures and 133 tables. There is a subject index and an author index to the papers cited in the text, but no attempt at a comprehensive bibliography is made. This book contains much of both fact and theory which should prove of interest to plant and animal physiologists, as well as to bacteriologists.—B. S. MEYER.

Physiology of Bacteria, by Otto Rahn, xiv + 438 pp. Philadelphia, P. Blakiston's Son & Co., 1932.

Experimental Pharmacology.

This small volume is a laboratory manual for students taking a brief course in experimental pharmacology. The material covered has been carefully selected and the experiments developed so as to emphasize specific features in the field of drug action. All non-essentials have been eliminated and the methods simplified. In carrying out this simplification the author assumes that the students have already had previous experience and training in physiological studies and manipulation and are therefore familiar with basic routine procedures. On the other hand certain features of pharmacologic technique, such as the various methods of administration of drugs and the use of the hypodermic syringe are described and discussed.

The experiments are selected to illustrate the general action of the drug and frequently to emphasize certain general principles involved. In these instances certain features are specifically mentioned such as "pathological pharmacology," toxicological action, pharmacological analysis, types of anesthesia, absorption, excretion, as well as the fate of drugs in the body. Certain bio-assays such as illustrated by the U. S. P. assay for digitalis are also given as examples of specific problems.

Noteworthy features which may be mentioned are the questions asked under each experiment, the special tests given, and the numerous references to the current literature.

Another noteworthy feature is the chapter addressed to the student in which three features are emphasized:

- (1) "The preparation of the mind as well as the materials."
- (2) "The laboratory procedure."
- (3) "The analysis and interpretation of results."

The text is to be highly commended as a laboratory guide in a general course.
C. A. DYE.

Experimental Pharmacology and Toxicology, by Henry G. Barbour, M. D. Philadelphia, Lea and Febiger, 1932.

More About Evolution.

The third edition of this work has just come from the press. Originally a book of selected readings, subsequent editions have approached nearer to the nature of the text. The present edition is very usable as a genetics and evolution text. While some chapters are still made up of selections from the writings of others, Newman himself has coordinated and unified them by the addition of chapters and sections from his own pen. Following an opening discussion of the historical background of the evolutionary theory, the specific evidences are carefully discussed. A considerable part of the book is given over to the mechanism of evolution, that is, genetics. A very clear discussion of eugenics and human heredity makes the book of especial value to today's student.—L. H. S.

Evolution, Genetics and Eugenics, by H. H. Newman. xxix + 620 pp. Chicago, the University of Chicago Press, 1932. \$3.50.

Insects and Disease.

The rapid advance in knowledge concerning the relations of insects and other arthropods to human health and disease, together with the widely scattered literature, necessitate frequent summaries of the available facts. This volume is an excellent account of the modern conceptions of insects and disease, and will be indispensable to the physician and public health worker, as well as to the entomologist. The interested layman will find it readable and authentic. Many fine illustrations add to its value, and the extensive bibliography will be greatly appreciated. The newly-developed use of blowfly larvae in osteomyelitis is discussed, as well as other recent developments.—L. H. S.

Medical Entomology, by Robert Matheson. xii + 489 pp. Springfield, Illinois, Charles C. Thomas, 1932.

How We Grow.

Julian Huxley has written a most interesting account of growth and growth processes, which considerably reinforces the rather scanty foundation upon which many of our ideas of development have been built. Growth gradients are thoroughly discussed, and their widespread existence established. Especially illuminating are the application of gradients to the various morphologic variations of related groups, by means of Cartesian transformation. No biologist can afford to miss this book.—L. H. S.

Problems in Relative Growth, by Julian Huxley. xix + 276 pp. New York, The Dial Press, 1932.

Thinking Machines.

The cordial reception accorded the first edition of this work has necessitated a second edition, in which some corrections have been made and some new material added. The book is a delightful compendium of the mechanistic basis of human behavior, with a sound psychological and philosophical background. As such it merits the attention of all those interested in any phase of human biology.

—L. H. S.

The Thinking Machine, by C. Judson Herrick. xii + 374 pp. Chicago, The University of Chicago Press, 1932. \$3.00.

Mammals, Good and Bad.

The literature on economic mammalogy has been scattered through such a wide range of publications that it is a pleasure to have it brought together under one cover. The present volume, although rather naively written, adequately summarizes the available information. The first part of the book is a general discussion of the varied ways in which mammals may affect human welfare. The second part is a systematic discussion, taking up in turn each order and family. This part will be of especial interest to the scientist. Not only is an excellent bibliography appended, but the particular page in question is cited in addition in footnotes. The binding and make-up are exceptionally fine.—L. H. S.

Economic Mammalogy, by J. Henderson and E. L. Craig. x + 397 pp. Springfield, Illinois, Charles C. Thomas, 1932.

Our Mineral Civilization.

Those who have come under the spell or influence of Technocracy (the machine age) will find in this little volume a wealth of interesting statistics. The book deals largely with the development and use of our mineral resources and the influence of the invention of modern machinery on the demand for certain metals or inorganic compounds. The presentation of this story of the rise in importance of our minerals is both entertaining and instructive. It has been written in a non-technical manner, but should be just as interesting to the scientist as to the layman.—WALLACE R. BRODE.

Our Mineral Civilization, by Thomas T. Read. 165 pp. Baltimore, The Williams and Wilkins Co., 1932. (One of the Century of Progress Series.)