

Glaridichthys torralbasi Eigenmann, represented by one specimen from the latter locality.

BARNUM BROWN

SCIENTIFIC BOOKS

A History of Geographical Discovery in the Seventeenth and Eighteenth Centuries. By EDWARD HEAWOOD, M.A. Small 8vo. 475 pages. Cambridge University Press.

This work is one of the Cambridge Geographical series, its author being librarian to the Royal Geographical Society. Its aim is to deal with the less known period which followed the great discoveries of the fifteenth and sixteenth centuries. The author defines his period as "that in which, after the decline of Spain and Portugal, the main outlines of the world-map were completed by their successors among the nations of Europe." The book is therefore a narrative mainly of the explorations of Great Britain, Netherlands, France and Russia. The sphere of the French was largely in North America, and Russian endeavor was devoted to northern Asia and its adjoining seas, while it was left to the English and Dutch navigators to fill in the map of the remote seas and distant lands of the globe.

At the close of the period the map of the world was distinctly modern, though it remained for the explorers of the nineteenth and twentieth centuries to fill in most of the map of Africa and of the polar regions, and to make more advanced surveys and detailed study of all lands and seas.

The author is hampered by the necessity of crowding a vast amount of material into a small volume, which is an encyclopedia in outline, and hence lacks continuity, and interest for the general reader. Hundreds of localities and explorers are noticed, each in a sentence or two, with the barest statement of what the explorer did, or tried to do. But this is probably the fault of the series as planned, and not of the author. In a few instances he has given a relatively full and keenly interesting narrative, as, for example, of Tasman, Anson, Hudson, Cook and Vancouver.

About sixty illustrations contribute substantially to the value and interest of the volume. These include many maps belonging to the period, and several portraits of the more eminent navigators. Considering its small size, about four hundred pages of text, the work is well suited for reference, particularly by reason of the thoroughness with which the index has been prepared. This occupies about fifty double-column pages and contains several thousand entries.

ALBERT PERRY BRIGHAM

Terminologie der Entwicklungsmechanik der Tiere und Pflanzen. In Verbindung mit Professor C. CORRENS, Professor ALFRED FISCHER, Professor E. KUSTER von Professor WILHELM ROUX. Leipzig. 1912. Pp. xii + 465.

This book represents a type of purely scientific publication which has been scarcely attempted as yet in this country for any field of the biological sciences. As Professor Roux points out in the preface of the book, the development within recent years of analytic investigation in biology has brought about the development of a new terminology, especially in connection with embryology and inheritance. The purpose of this book is to make it possible to determine readily the meanings given to new terms by their authors, as well as the special meanings which many terms have acquired in connection with experimental and analytic investigation. That a real need for a book of this sort exists Professor Roux regards as evident because, as he says, the previously published terminologies of zoology, biology, medicine, etc., have for the most part omitted the special terminology of developmental mechanics.

The book defines some eleven hundred terms, purely philosophical terms being excluded and botanical and zoological terms being combined as far as seemed advisable. But that the book is far more than a simple dictionary will be evident from the fact that the eleven hundred terms occupy nearly five hundred pages. In many cases reference is made not

only to synonyms, but to related terms, and for most of the new terms which have appeared in connection with analytic work the author's name and the year, or in some cases the full bibliographic reference is given. In addition to this for many of the more important terms the subject-matter consists not simply of a definition, but of a short article of cyclopedic character. For example, under "Correlation" there are two pages of definitions, analysis, references, etc., under "Erbformel" one page, under "Experiment" almost five pages, under "Faktor" two pages, under "Heteromorphose" more than two pages. "Potenz" has nearly two pages, "Regeneration" nearly three pages, "Reiz" with compounds and adjective terms six pages, "Vererbung" five pages, etc. Each definition or article is signed with the initial of its writer.

Many terms consisting of substantive and adjective and a considerable number which consist of several words are included, *e. g.*, "advective Bildungen" "erbgleiche Bastarde," "funktionelle Hypertrophie," "ontogenetisches Causalgesetz," "correlative Variabilität," "Gesetz der Concordanz der Zellteilung," "Lage der Teile im Ei und Embryo," "Lysintheorie der Entwicklungserregung." The alphabetic arrangement of such terms in the book does not follow any invariable rule, but is determined by the most characteristic word.

Every student of "developmental mechanics" is familiar with Professor Roux's pioneer work in the development of an analytic terminology as well as in analytic investigation, and it is of course to be expected that no inconsiderable portion of the book is devoted to the terms of which he is the author.

In general the book has a distinctly morphological cast, as might be expected from its title and its authors, but a considerable number of strictly physiological and some physical and chemical terms are briefly defined. It seems possible that in an eventual second edition some expansion along these lines may perhaps be desirable.

The following quotation from the preface suggests how the book may be used not merely

for reference, but as an introduction to the subject:

Wer diese Terminologie zu seiner Einführung in die Entwicklungsmechanik verwenden will, dem ist zu empfehlen, der Reihe nach mit der Lektüre der Artikel: Entwicklung, Entwicklungsmechanik, Analyse, Differenzierung, Faktoren, Determination, Autoergie, Potenz, Lebewesen, Funktionen, Wachstum, Anpassung, Perioden, Experiment zu beginnen und die in jedem Artikel befindlichen Verweisungen zu benutzen.

The publishers, the firm of Wilhelm Engelmann in Leipzig, have done their part in the manner to be expected of them: the book is convenient in form and size, the type is sufficiently large for perfect ease in reading and the typographic work is of the highest grade. In a rather extended examination of the book the reviewer has not noted a single typographical error.

There can be no doubt of the value of the book. It should be of great assistance to clearness of thought and expression and should decrease the number of new terms which have no excuse for existence except their authors' ignorance of terms already existing. It is to be hoped that the book may be widely used by experimental zoologists in this country as well as in Germany.

C. M. C.

Handbook of Nature Study. By ANNA BOTSFORD COMSTOCK. Comstock Publishing Co., Ithaca, N. Y. 1912. Pp. xvii + 938, many illustrations, mostly from photographs.

Wherever else the nature-study enthusiasm may have subsided, it has not at Cornell nor in New York. The principal reason for this steadfastness is the presence and work at Cornell of Mrs. Comstock. She has had loyal support from Professor Bailey, and effective helpers in a half-dozen assistants and associates, but she it is who has been, and is, the burning center of the Cornell nature-study illumination.

To make the rays reach farther Mrs. Comstock has for twenty years issued the well-known informing leaflets of the Home Nature-Study Course, which have gone to thousands of teachers and homes in New York. To make