that it has been found necessary to divide it into two volumes, the first volume discussing the morphology and physiology of plants, and the second volume the morphology and physiology of animals. In addition to various changes and expansions in the text, many new types have been added in the second edition. The most important of these new types are Vaucheria, Selaginella, Gregarina, Taenia, Ascaris, Hirudo, Anphioxus, and chapters upon plant cells and tissues, upon fish, upon geographical distribution, and one chapter devoted to man. In the groups of flowering plants also there have been very many additions, so that the whole new edition is nearly twice as large as the original. Perhaps the most valuable additions that have been made in the new edition have been in the sections upon physiology and development. In nearly every case has the physiology of the types been rewritten and expanded, and this is true also of the sections on development. Several additional sections upon the subject of Cytology, including cell development, fertilization, etc., have been added bodily to the work.

This book on biology is excessively compact, and there is crowded within these two volumes an amount of information and discussion which is certainly beyond that which can be accomplished by classes in our institutions. The book is designed, however, especially for certain phases in English education, and not for education in our schools. It is supposed to be accompanied by laboratory work, and the author has hopes that it does not require the guidance of a teacher, but is in a form by which it can be readily followed without guidance. No laboratory directions are given, however, and the details crowded into the sections on morphology are so numerous that it seems hardly possible to hope that they can be comprehended without a very long course of study under the guidance of competent instructors. As a referenee book, however, one cannot speak too highly of this text-book, and as a treatise in theoretical biology it occupies a place not filled by any other English publication.

An Examination of Weismannism. By GEORGE J. ROMANES. Chicago, Open Court Publishing Company.

ONE is always delighted to receive something new from the pen af Mr. Romanes, for he has demonstrated by many attempts his marvelous power of writing clear English and of taking abstruse subjects and dressing them in the fashion that makes them not only intelligible, but interesting to the ordinary reader. The little book here noted is published in anticipation of the second volume of "Darwin After Darwin," the publication of which we are awaiting. It seems a very surprising thing when one looks through the pages of this book, to find Weismannism discussed without a discussion of the subject of the inheritance of acquired characters, for so thoroughly has the inheritance of acquired characters come to be regarded as a part of Weismannism, that one wonders how the subject can be treated without it. But Mr. Romanes scarcely mentions this subject, reserving it, as he tells us, for discussion in his later book. The present discussion is simply a review of Weismannism as a theory of heredity and of evolution, and not as bearing upon the question of acquired characters. In this little work we are to thank Mr. Romanes especially for three features: First, the clear distinction that he has drawn between the Weismannism theory of heredity and his theory of evolution; second, a logical comparison of the heredity theory of Weismann with others somewhat allied to it, especially that of Galton; and third, for the skilful marshalling of the trenchant criticisms against Weismann's views, which have appeared in the discussions of the last few years, and have led to great changes in Weismann's own opinions. We are also fortunate in having given us a historical view of the gradual growth of the theory as it developed in the mind of its author and of the final abandonment of some of the most essential features of the original view.

No word is needed in regard to the excellence of the English and the plainness of the discussion, for Mr. Romanes' writings always show the most clear logical arrangement. The reader of this work cannot fail to gain a more comprehensive view of the general theory of Weismannism and its relation to biological problems, and will appreciate from this discussion, better than from the writings of Weismannn himself, the significance of the final position adopted by Weismann.

The Life of a Butterfly. By SAMUEL H. SCUDDER. New York, Henry Holt & Co. *Brief Guide to the Common Butterflies of Northern United States aod Canada.* By SAMUEL H. SCUDDER. New York, Henry Holt & Co.

THE object of these two books by our leading student of butterflies in the East is to present certain facts in a familiar way for the use of the student who is as a novice interested in the study of nature. The first book, of 180 small pages, gives a familiar description of the life of our most common and best known butterfly, the so-called milkweed butterfly, presenting, in a familiar and popular style, a description of the animal, of its life-history, and its general relation to its surroundings and to science. The author uses the example, as a basis for a discussion of a few striking scientific laws, most interesting of which will be, to the ordinary reader, the study of the geographical distribution and migration of animals, the subject of mimicry as shown by insects, the subject of the power of vision possessed by insects, and a very clear, satisfactory illustration of certain phases of the general law of natural selection. The general design of the book is excellent, and the style is, on the whole, well adapted to the persons to whom the book will appeal. It is unfortunate that no figures are inserted in the text. A small number of figures are put in at the end of the book, but no reference is made to them in the body of the book, and, consequently, the reader will follow the book through without the proper study of the figures which should go with the text. Perhaps, also, the author has made too free a use of scientific names of species of butterflies to be intelligent to the ordinary reader; but, with these few points of criticism, "The Life of a Butterfly," by Mr. Scudder, is one of the interesting and instructive introductions to nature which our scientists are at the present time endeavoring to put within the reach of the non-scientific reader.

The second book is very different in its nature, and is designed to enable the student of butterflies to determine the names and learn of the habits of all of our common species of butterflies. The author has selected one hundred of the commoner forms for description. The introduction of the book gives a long, careful description of the anatomy of a butterfly; and here, even more, it is to be extremely regretted that no figures are introduced. It is so much easier for the beginner to study specimens by the aid of figures of reference that one must seriously regret the lack of the introduction of explanatory figures in the text which describes the structure and anatomy of a butterfly. The description is followed by a key for determining the species of butterflies, and this key is especially valuable, inasmuch as it not only enables the student to determine the species by the use of the adult butterfly, but also has separate keys for determining species by the use of the caterpillar and of the chrysalis. These two secondary keys