

ordinarily be noticed only by an expert, so that we must welcome this new process as a great boon. How different copies agree we have not tested.

We have spoken thus in detail regarding the plates, not only from our hope regarding this new process, but because of their special value from a scientific point of view; a large number of the figures being, Chancellor Holland states, photographic reproductions from the types of the butterflies described. Strange to say, it is only in a very few instances that the author has specified *which these are*, and so he has lost an easy opportunity of adding greatly to their value.

Not all the North American species are described or figured in the work, the author quailing before the numerous and rather insignificant Hesperidæ, of which but little more than one-half are treated, and omitting many others found in our lists, but either of doubtful specific validity or differing from their allies by distinctions too fine for any but the expert. This is in the interest of the popular audience to which the work appeals. It is, in fact, an iconography of all the forms interesting an amateur, and more. The only really desirable addition would have been to give more figures of the under-surface where this is characteristic, but one should not quarrel with the generosity here displayed; none can possibly complain that he does not get his money's worth, at least.

As to the text of the work, the first fifth of the book is given up to introductory matter on structure, collecting, etc., and the remainder (except a few interspersed essays) to a systematic but very general account of the insects figured, with very many text illustrations, principally of neurulation. The different groups are described as well as the species—a desirable feature, but one not altogether common in popular works; and the classification used is more modern than in most of such books. The author's use of genera is not equal, and is 'conservative'—that is, there are many magazine genera here and there, but with a tendency to the discrimination of later times. The descriptions of the species are short—often very short; and attention is paid to the early stages, but almost absolutely none at all to life-histories,

which should be one of the principal aims in a popular treatise.

The work will surely command a large sale and prove a great stimulus to the study of butterflies. Certainly we have never before had such a generous aid to those wishing to cover the whole field. Why should the publishers stamp the cover 'The Butter-Fly Book?' The author surely is not responsible for this, for the proofs have been well read. The publishers have, otherwise, done their part well; the topography is clear and careful, and there is a good index.

SAMUEL H. SCUDDER.

BOOKS RECEIVED.

Michael Faraday, his Life and Works. SYLVANUS P. THOMPSON. New York, The Macmillan Co. 1898. Pp. x + 308.

The Elements of Physics. EDWARD L. NICHOLS and WILLIAM S. FRANKLIN. Vol. I., Mechanics and Heat. New edition, revised with additions. New York, The Macmillan Co. 1898. Pp. xiii + 219. \$1.50.

Principles of Plant Culture. E. S. GOFF. Madison, The Author. 1899. Pp. 287.

SCIENTIFIC JOURNALS AND ARTICLES.

THE *Psychological Review* for January opens with Professor Münsterberg's presidential address before the American Psychological Association, the subject being 'Psychology and History.' This address, together with other articles that Professor Münsterberg has recently published in the *Atlantic Monthly* and elsewhere on the subject-matter of psychology and its relations to other sciences and to philosophy, will shortly be issued in book form by Messrs. Houghton, Mifflin & Co. Professor J. R. Angell and Miss H. B. Thompson contribute from the laboratory of the University of Chicago a study of the relations between certain organic processes and consciousness, elaborately illustrated with tracings of pulse and breathing. Mrs. C. Ladd Franklin publishes her paper on Professor Müller's 'Theory of the Light-sense,' read before the recent meeting of the American Association. There are other articles on 'Theories of Play,' by Mr. H. M. Stanley; on 'Eucken's Struggle for a Spiritual Content of Life,' by Professor Francis Kennedy, and on 'The Effects of Ether.'

THE *Educational Review* for January, which is the first number of the seventeenth volume, opens with an article by Dr. W. T. Harris on the future of the normal school, reviewing 'the five stages' in education. Dr. Harris quotes for edification the anecdotes of Newton and the apple and Cuvier reconstructing an extinct animal from a single bone. Professor Thurston contributes the paper on professional and academic schools read by him at the Association of Colleges and Preparatory Schools of the Middle States and Maryland, and Dr. E. L. Thorndike points out the sentimentality of nature study, which interferes with the teaching of science.

THE Macmillan Company announces the publication, in February, under the editorship of Mr. Frank M. Chapman, of the first number of a popular bi-monthly magazine, addressed to observers rather than to collectors of birds. The contributors will include John Burroughs, Dr. Henry Van Dyke, Bradford Torrey, Olive Thorne Miller, Mabel Osgood Wright, Annie Trumbull Slosson, Florence A. Merriam, J. A. Allen, William Brewster, Henry Nehrling, Ernest Seton Thompson, Otto Widmann and numerous other writers.

A YEARBOOK of Neurology and Psychiatry is announced by S. Karger, Berlin, edited by Drs. Flatau and Jacobsohn, under the direction of Professor Mendel. The work is prepared with the cooperation of a large number of leading German neurologists, and will perform a useful function, owing to the wide dispersion in many journals of publications on the subjects included. It will give not only a bibliography of some thirty-five hundred titles of the literature of 1897, but also short reviews of their contents.

SOCIETIES AND ACADEMIES.

ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA.

October 4. MR. LOUIS WOOLMAN, reporting on a specimen of the earth said to be eaten in the South, received through Mr. Wilfred H. Harned from Davidson county, N. C., stated that the substance is not diatomaceous. It had been found, on examination by Mr. S. H. Hamilton, to be composed of twenty per cent.

silica and eighty per cent. of kaolin, with a trace of alum.

MR. EDW. GOLDSMITH spoke of the igneous origin of the rocks on the Massachusetts coast. He suggested that they are of the same age as the Pennsylvania traps and may, therefore, furnish evidence of the existence of craters.

October 11. MR. PHILIP P. CALVERT, in connection with the meeting of the Entomological Section, presented a statement on recent study of neuroptera, reviewing the work of the last three years, or since 1895, when a synopsis of the natural history of the dragon-flies was given before the International Congress of Zoology by Dr. De Selys Longchamps, whose work on these insects extends over a period of sixty-seven years. He has described at least one-half of the two thousand recognized species. The important papers published since the date given were reviewed and their scope commented on.

MR. CHARLES S. WELLES described a vast swarm of the larvæ of *Daremma Catalpæ* observed during the summer at Media. The development and distribution of the insect were described and illustrated by specimens.

DR. HENRY SKINNER further commented on the life-history of the species.

MR. WITMER STONE spoke of the distribution and relationship of *Neotoma pennsylvanica* and its separation from the fossil *Neotoma magister*, described by Baird from the caves of Pennsylvania.

October 18. DR. EDW. J. NOLAN presented to the Academy five volumes prepared as a memorial of the late Dr. Joseph Leidy. They consist of a collection of biographical notices, portraits, autograph letters, manuscripts, original drawings of botanical and zoological subjects and notes, the latter having been contributed for the most part by Mrs. Leidy. After describing the contents of the volumes, Dr. Nolan commented on the attainments and personal character of the distinguished naturalist out of loving regard for whom they had been prepared.

MR. JOHN A. SHULZE called attention to specimens of *Isthmia nervosa* from Hudson's Strait. The species was formerly supposed to be confined to the western coast. Its geographical distribution was further considered by Mr. Lewis Woolman and Mr. Frank J. Keeley.