

which in the least warrants this surprising statement.

In the present state of European civilization we turn with more interest possibly than formerly to these ancient civilizations of the East. English people can only regret that when the Japanese have taken the pains to write in the English language treatises of this kind about their history that even then the publication should be effected in Germany and Holland. Surely the people of the Orient should be met by English and Americans more cordially in scholarly as well as commercial matters. Mr. Mikami has rendered a real service to the history of science by this exposition of the development of mathematics in China and Japan.

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Birds of New York. By ELON HOWARD EATON. Memoir 12, New York State Museum, John M. Clarke, Director. Part 2. Introductory Chapters; Land Birds. Albany, University of the State of New York. 1914. 4to. Pp. 719. Sixty-four colored plates, and many half-tone illustrations in the text.

In the review of Part I.¹ it was said that "Of the many manuals and reports on birds issued under authority of the various state governments none approaches in voluminous detail and fullness of illustration the present work on the 'Birds of New York,' of which Part I., comprising the water birds and game birds, appeared in 1910. It was further stated that "the author, Elon Howard Eaton, has shown himself well fitted for the task, both the introductory matter and the systematic part giving evidence of thorough research and good judgment." This high praise is equally merited by Part II., comprising introductory chapters on bird ecology (pp. 5-46), the economic value of birds (pp. 46-51), the status of our bird laws (pp. 51-52), special measures for increasing bird life (pp. 52-58), bird refuges (pp. 58-59), private preserves (pp. 58-60), and a systematic account of the land birds (pp. 61-543).

¹ SCIENCE, N. S., Vol. XXXII., No. 866, pp. 247-48, August 19, 1910.

The chapter on bird ecology treats (1) of the fundamental factors of environment, as climatic, physiographic, character of soil, and biotic; (2) bird habits; (3) nesting sites of New York birds, in respect to whether in banks, on the ground, in tussocks, in thickets, at different elevations in trees, or in structures erected by man, including bird boxes specially provided by man; (4) bird communities, classified with reference to breeding haunts; (5) succession of bird life, with reference to climatic and edaphic conditions; (6) the influence of culture conditions, as timber cutting, draining of swamps and marshes, pruning of shade and fruit trees, and effects of agriculture; (7) birds in relation to their food habits; (8) injury done by birds, in different ways by particular species; (9) economic value of birds, as destroyers of insects, weed seeds, field mice, etc.; and, finally (10) measures for increasing bird life, as the erection of artificial nesting sites, and the planting of trees and shrubs that yield them shelter or food.

The systematic part treats of the genera and species in the sequence of the A. O. U. Checklist, from the vultures to the bluebird, in the detailed manner indicated in the review of Part I. The 65 half-tone illustrations in the text are mostly of young birds or of nests and eggs, but include a few full-length views of birds from mounted specimens; the 64 colored plates are by Fuertes, and thus scarcely need further comment, except to say that the color-printing is of very unequal merit, being for the most part good, but far from satisfactory in many of the sparrow plates and in some others, which, of course, is not the fault of the artist. The subject-matter does great credit to the author and to the state, and the work will always be the standard authority on the ornithology of New York as known at the time of its publication. As a piece of book-making it falls far short of being a model. There is no table of contents beyond the chapter titles given on the title-pages, nor any list of the text illustrations, nor of the plates; the index is placed after the plates with a hiatus in the pagination

from page 543 to page 673, presumably to cover the explanatory leaves facing the plates.

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NEW YORK

Nature and Development of Plants. By CARLTON C. CURTIS, Professor of Botany in Columbia University. Illustrated. New York, Henry Holt & Company. 1914. Pp. vii + 506.

A few years ago it fell to the reviewer's lot to discuss in these columns the first edition of this excellent text, and it is with pleasure that he offers herewith his comments on its recent revision.

It is well that a book of this kind has met with that degree of appreciation and success which has warranted its third edition in so short a time. It is rare among our text-books of botany that the essential facts of the science are presented in a style at once so clear and attractive as to hold the attention of the casual reader, to say nothing of its acceptability to students. Too often is it the tendency among writers to kill, in the average student, all interest in a subject naturally engaging, by a dictionary style of composition and a pedantic devotion to technical terminology. Technical terms are well enough in their place, but their acquisition is not the end of botanical study, and to present the nature and development of plants accurately and in simple language, demands a keener appreciation of the facts and their relations, than it may require to clothe the subject in the diction of a specialist.

One of the points in which this book is especially to be commended is the effort of its author to direct attention to the economic bearings of the subject. While the deeper thinker has no difficulty in appreciating the practical value of pure science, so-called, the fact remains that most students are stimulated by a perception of the relation of this or that fact to human welfare, and the more the facts of such relation are emphasized, the less will botany have to contend for its just place in the academic program.

It is the aim of the author, as stated in the preface, that the mastery of this text shall exact strenuous effort on the part of the student, an excellent motive from the pedagogical standpoint, but an end which is better reached in the laboratory than elsewhere. Such a purpose would hardly be achieved in the present volume with its clear and simple style, unless it be in the mass and suggestiveness of its fact, which we take to be the author's intent.

The book before us is divided into two parts. The first deals with the plant as an organism, definite, vital, dynamic. In this the topics of photosynthesis, transpiration, absorption, growth, reproduction, etc., as well as the structure of the tissues concerned, are treated with special reference to the seed plant and introduces the significance of plant structures and life. Part two presents the subkingdoms of the plant world and their more common representatives, setting forth the principal features of relationship and evolution. The book should form the basis of a year's study, supplemented by lectures and laboratory work. The illustrations are excellent and well chosen.

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BOTANICAL NOTES

THE ANNIVERSARY OF A GREAT GARDEN

SEVERAL months ago the botanists of the world were asked to come to St. Louis about the middle of October to celebrate the twenty-fifth anniversary of the organization of the board of trustees of the Missouri Botanical Garden. And in planning the celebration those in charge wisely provided for a dignified program of scientific papers of notable merit, rather than for a series of congratulatory addresses. Of course there were some congratulations, but these were confined to the after-dinner speeches, at the close of the anniversary exercises. So there was a minimum of inane congratulations, and a maximum of notably meritorious botanical papers. The example of the managers of this program is commended to other managers of anniversary exercises.

Here it should be remembered that Henry