SCIENTIFIC BOOKS

WILD NATURE

Our Heritage of Wild Nature. By A. G. TANSLEY, F.R.S., 74 pp. 26 photographs. Cambridge: at the University Press; New York: The Macmillan Company. 1945. $2.50.

PLANS for rebuilding the war-torn, crowded island of Britain at first gave little consideration to the conservation of flora and fauna in natural areas. Cities, industry, commercial forestry, agriculture—all were making desperate, overwhelming demands.

This book pleads for organized conservation of wild life—before it is too late.

Some "planners" envision a Britain where every foot of ground will be blue-printed into towns and cities, tilled areas, forest plantations and intensively used playgrounds and resorts. This would mean the end of a rural landscape which, in its combination of wild forests, heaths and moorlands together with tillage and pasture, is distinctive and beautiful. Preservation of the wild and half-wild areas is necessary not only for their own sake, but as habitats for wild life. Conservation of many animal species, including the two native deer, the mice and voles, the rabbit and several carnivores, require lands on which agriculture or other interests are subordinate.

The types of vegetation and scenery of Britain and the alterations that have occurred in historic times are discussed briefly. Some biologically important types, such as oakwoods and alderwoods, are economically unprofitable. They, and their faunas, will therefore disappear unless the public acts. The seacoast, a particularly interesting national asset, is being preempted for private use. The early establishment of national reserves is imperative.

Professor Tansley traces the history of the nature reserve movement in Britain. A considerable number of protected areas exist, but there has been little coordination of effort. A national program is required. The Nature Reserves Investigation Committee in 1943 recommended the establishment of a series of small National Nature Reserves. These are planned chiefly for scientific purposes to preserve both flora and fauna.

For more than a decade Britain has been considering the need for National Parks, and a number of specific areas are now being examined by the Ministry for Town and Country Planning. These would be much more extensive than the proposed Nature Reserves, and would be primarily for public enjoyment. In regions where wild land is limited, the parks would be known as Scheduled Areas. In them present ownership or usage would not be changed. "The only restriction would be the prohibition of development destructive of the present character of the countryside." To preserve certain wild conditions, Nature Reserves might be established within National Parks and Scheduled Areas.

A Wild Life Service is recommended, to study the fauna and flora of Britain and to work with land management agencies to conserve it. The author recognizes the close affinity of such a service to the bureau which will operate the National Parks and especially the Nature Reserves. However, he believes it would be "difficult or even impracticable to burden" scientific investigators with administration of lands. Perhaps because of the troubled history of government control of predators in the United States, the British Wild Life Service would be specifically required to work closely with the humane societies if it became necessary to plan the destruction of large numbers of injurious mammals or birds.

The author recognizes the impossibility of establishing in populous Britain a series of extensive wild areas similar to the great national parks of the United States or Canada. His program for prohibiting further economic developments in specified areas and for maintaining modified habitats for interesting plants and animals makes the best of realities in a land where the primeval wilderness vanished centuries ago. Some of the policies suggested in this book might be applicable to our own eastern and middle-western country, where the purist in nature conservation laments that all is lost because extensive wilderness areas no longer are available.

Professor Tansley summarizes his book by recommending the establishment of a National Wild Life Service, National Nature Reserves and National Parks; enlarging the prerogatives of the Forestry Commission; and teaching conservation in the schools. He has condensed his excellent plea for organized nature conservation into 67 pages of text illustrated by 26 fine photographs.

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PLANT SCIENCE IN LATIN AMERICA

Plants and Plant Science in Latin America. Edited by FRANS VERDOORN. xl + 384 double column pp. 83 plates + text illus. Waltham, Mass.: Chronica Botanica Co.; New York City: G. E. Stechert and Co. 1945. $6.00.

IF one is interested in the plant life of Latin America from almost any angle, even an amateurish one, this volume is the one to buy. Speaking broadly, it is the most comprehensive book so far published on the green world to the south of us. Great pains have been taken to procure material from authoritative sources. Almost a hundred authors of many nationalities have written accounts of the vegetation and

plant resources, involving information on agriculture, forestry, plant diseases, plant distribution, ecology, climatology, geology, economic plants, soils, mycology, conservation, ethnobotany and paleobotany. Most, if not all, of these men either live there, or have lived there.

Special features are very artistic plates, in many cases reproduced from classical publications on botany.

Pennell writes an interesting historical sketch in which one becomes quite well acquainted with botanical exploration and investigation up to 1850. Fosberg treats of the economic plants with references and native names, classified as to general use, such as fibers, insecticides, etc. Smith and Johnston in their phytogeographic sketch do an admirable job of telling you how the land lies in regard to the vegetation types. Popenoe presents an all-over picture of the problems of tropical agriculture, including those of agricultural education.

There are selected lists of travel books of botanical interest; an extremely interesting selected reference list, technical as well as general, involving guides, books by Carleton Beals, science congress proceedings, Adamic's description of Popenoe's house in Antigua and a mine of other intriguing items.

Several chapters are devoted to such subjects as "Agricultural Scholarships and Interamerican Relations," "Some of the Principal Latin-American Plant Science Periodicals," "Cooperative Agricultural Research and Extension Stations in Latin America," "On the Location of Botanical Collections from Central and South America," "The Advantage of the Tropical Environment for Studies on the Species Problem" and "Plant Breeding, Genetics and Cytology in Latin America."

Every country from Mexico to Argentina is covered, and most of the West Indian Islands are included. There are also treatments of the Falklands, Galapagos and Juan Fernandez. Most of the articles are in English, but a number are written in Spanish, French and Portuguese.

The most thought-provoking article in the book is the introductory essay by the editor entitled "The Plant Scientist in the World's Turmoils"—an essay, including the footnotes, which most scientists would do well to read carefully and meditatively.

One of the special features is subject to criticism, even though the editor in a footnote takes the blame. I refer to Dr. Lanjouw's "The Location of Central and South American Botanical Collections." The explanation of the symbols used to designate the herbaria does not occur in this volume, which is unfortunate, but which can be partly rectified by publishing such a list in pamphlet form at a nominal cost.

A detailed table of contents takes the place of a subject index. There are indices of personal names, plates and text illustrations.

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ORGANIC CHEMISTRY

The Characterization of Organic Compounds. By SAMUEL M. MCELVAIN, professor of chemistry, University of Wisconsin. ix + 282 pp. $8\frac{1}{2} \times 5\frac{3}{4}$ in. New York: The Macmillan Company. 1945. $3.40.

THE first important publication in this field was Mulliken's "Identification of Pure Organic Compounds," the initial volume of which appeared in 1905, and the fourth in 1922. This work was received so favorably that the issue of certain of the volumes was quickly exhausted and they have since been practically unobtainable. The first edition of Kamm's "Qualitative Organic Analysis" was published in 1922; and Staudinger's "Anleitung zur organischen qualitativen Analyse" in 1923. Shriner and Fuson's "Systematic Identification of Organic Compounds; a Laboratory Manual" came on the market in 1935, and in 1941 there appeared the "Identification of Pure Organic Compounds. Tables of Data on Selected Compounds of Order I," by Huntress and Mulliken, which, in general purpose, plan and function, as well as in the basis of its primary classification, resembled its predecessor of similar title. In other respects, however, the two are quite different, so that this new compilation should not at all be regarded as a new or revised edition of the earlier "Mulliken," but as an original contribution. The author of the book under review has adopted in the main the analytical treatment first advocated by Kamm, rather than that of the Mulliken volumes.

Based upon the experience of twenty-two years' teaching at the University of Wisconsin, with senior undergraduate and first-year graduate students from a great variety of American colleges and universities, its general purpose is to develop a systematic and comprehensive procedure for the identification of organic compounds and, in so doing, to bring home to the student the practical applications of the fundamental principles of the science and the distinguishing characteristics of the various classes of organic compounds upon which is based the really wonderful systematic classification of the whole limitless domain of organic chemistry.

It also provides an unrivaled opportunity for stimulating his interest in the subject and for passing on to him some of that inspiration and enthusiasm without which the teacher becomes merely a *vox et praeterea nihil.*

The procedure, which is developed in detail, con-