

the second. In preparing his broad panoramic book, *The Face of the Ancient Orient*, he necessarily had to resort to secondary sources for most of his data; so a rather narrow Sumerologist like myself, when reading his chapter on the Sumerians, cannot help being pained and depressed by some of his oversimplifications, misunderstandings, and quotations from outdated and untrustworthy translations. By and large, however, this book presents a lucid, intelligent, and lively summation of some of the more important aspects of the culture of the Ancient Orient, and I recommend it warmly for use in schools and colleges, and for the culturally minded layman, as an appetizing and stimulating introduction to the study of man's early civilizations.

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Sinopsis de la flora chilena, claves para la identificación de familias y generos.

Carlos Muñoz Pizarro. Ediciones de la Universidad de Chile, Santiago, 1959. 840 pp. Illus. Paper, \$14.

The flora of Chile is a key piece, and usually a missing one, in attempted comparisons of the plant life of the temperate Americas or in any analysis of the vegetation of the isolated portions of the southern temperate zone. It may come as a surprise to those who blissfully assume that the pioneering labors of plant taxonomy were happily consummated in the earlier 19th century and digested by Darwin, that there has never been anything like a complete manual to serve as an introduction to this taxonomically and phyto-geographically rich and interesting flora. The classical floristic account of the country by Claudio Gay is now more than a century old, and the more recent (1896–1911) studies by Carlos Reiche did not cover vascular cryptogams, gymnosperms, or "amentiferous" dicotyledons. In addition to this lamentable situation succinctly pointed out by Carl Skottsberg in his prologue to the present volume, there is the unmentioned fact that the uncritical multiplication of taxa by the great naturalist, R. A. Philippi, in his later years, has effectively frustrated work on the Chilean flora.

Muñoz, well known in this country from his graduate days at Harvard and his subsequent participation in various

conferences and congresses, does not offer his *Sinopsis* as the full answer to the acknowledged lack. Indeed, his present work is visualized as a necessary and useful preliminary to a truly modern flora of Chile. His work is heavily indebted to the assistance of Benkt Sparre, and he has had the aid of most of the Chilean botanists and that of all of us who were fortunate enough to be able to visit Chile and to enjoy the unfailing hospitality of the author and his compatriots during the more than a decade of the book's gestation.

As indicated by the subtitle, the *Sinopsis* consists essentially of 220 pages of carefully executed dichotomous keys to some 91 orders, 182 families, and the nearly 1000 genera of vascular plants believed to be native to, or established in, mainland Chile and its insular possessions. The latter include the fabulous archipelago of Juan Fernández, so beautifully monographed by Skottsberg, the offshore islets of San Félix and San Ambrosio, and the strongly discordant Isla de Pascua (Easter Island). Each family is provided with a brief diagnosis, a list of some of its more common and better known species, and a key to its genera. There are no generic descriptions, but their lack is more than compensated for by the provision of more than 200 full-page analytical plates prepared by the skilled botanical illustrators Fusa Sudzuki de Meza and Eugenio Sierra R. This central core is buttressed by a 25-page glossary, largely adapted from the excellent botanical dictionary of Font Quer; a 26-page bibliography lists the works consulted in the preparation of keys and descriptions.

A useful tabulation of the authors of taxa described from Chile provides a digest of the country's botanical history. It is notable that only four of those listed as contemporaneous are Chileans: Acevedo de Vargas, Espinosa, Kausel, Looser. This is not an entirely fair picture of present-day Chilean plant taxonomy, although economic conditions and professional opportunities in recent decades have not been the sort that encourage botanical careers. There is some heartening evidence that the scientific climate may be improving. Active groups of plant scientists have developed in Concepción, Santiago, and perhaps elsewhere. However, a great deal of basic exploratory effort and simple amassing of material still remains to be done, while senseless destruction of the beautiful and unique vegetation pro-

ceeds apace. To my knowledge, there is nothing like a "complete" reference collection of the Chilean flora anywhere in the world; to attempt work with any part of it necessitates a large expenditure of time and effort in locating and accumulating even the basic materials.

The appearance of Muñoz's useful and very attractive volume suggests that there is now some official backing for a thorough appraisal of the country's natural resources. The *Sinopsis*, excellent as far as it goes, may also be a symbol that basic scientific investigation in Chile can anticipate public understanding and support. The realization of a modern Chilean flora may thus be less of a mirage than it has long appeared to those awaiting it.

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Miscellaneous Publications

(Inquiries concerning these publications should be addressed not to Science, but to the publisher or agency sponsoring the publication.)

The Future of Latin American Exports to the United States: 1965 and 1970. Louis O. Delwart. And a statement by the Inter-American Research Committee. National Planning Association, Washington, D.C., 1960. 127 pp. \$2. The Interamerican Research Committee, established by the National Planning Association, has approximately equal representation from the peoples of the Western Hemisphere. In this report, the first of a series, the committee warns that "The export situation of Latin America . . . requires urgent and sympathetic attention" and that in the past few years a "virtual stagnation in the overall volume of Latin American exports to the United States" has already contributed to a slow-down in the rate of growth of the Latin American economy as a whole. The report warns that "the inability to find needed markets in the United States may induce these countries to accept bilateral agreements with the countries of the Soviet Bloc."

Japanese Journals in Science and Technology. An annotated checklist. Compiled by George S. Bonn. New York Public Library, New York, 1960. 134 pp. \$2. A list of 660 titles selected from approximately 900 journals examined by Bonn. Arrangement is by subject, with each subject subdivided into six major types of publishing bodies—societies, government agencies, industries, private publishers, pre-1948 universities and post-1948 universities.

Laboratory Exercises in Invertebrate Physiology. John H. Welsh and Ralph I. Smith. Burgess, Minneapolis, rev. ed., 1960. 179 pp. \$3.50.

Science and Engineering in American Industry. Report on a 1956 survey. National Science Foundation, Washington 25, 1960 (order from Supt. of Documents, GPO, Washington 25). 117 pp. \$0.70.