BOOK REVIEWS

STUDIES IN VOLCANOLOGY—A MEMOIR IN HONOR OF HOWEL WILLIAMS. Edited by Robert R. Coats, Richard L. Hay, and Charles A. Anderson. Geological Society of America, Memoir **116,** 678 p., $19.25.

The title of this volume made me doubtful of my qualifications as a reviewer, but caution departed when the beautiful volume itself arrived, because I had no intention of letting it out of my possession. *Studies in Volcanology* contains 17 papers arranged in alphabetical order of the last names of the first authors. It deals with volcanology in the broadest sense to include volcanic petrology, diagenesis, later metamorphism, stratigraphy, radiometric dating, paleomagnetism, eruption mechanisms, geomorphology, and time and space relations between volcanic and subjacent plutonic rocks. The volume provides an excellent collection of much important work that has been going on recently in the western United States. There are 11 papers dealing with the western conterminous United States, two each with Alaska and Hawaii, one with Tahiti, and one with resurgent cauldrons on a world-wide basis. This last (also last in the book) by Smith and Bailey of the U. S. Geological Survey draws on years of collective experience, and will probably stand as a landmark in the effort to understand long term volcanic phenomena.

Among the papers on the conterminous western U. S., eight deal with late Mesozoic to late Pleistocene volcanics with a strong emphasis on siliceous rocks; one with relations between volcanic, plutonic, and tectonic events in the Boulder Batholith area, Montana; one with metamorphosed Precambrian volcanics in Arizona; and one with a granitic dike swarm in Yosemite National Park. This last paper, by Reba Fournier, is an excellent example of how much can be learned by detailed mapping of a small perfectly exposed area. [Unfortunately no scale is given on the detailed map (Plate 1). It seems likely the area is 16 feet by 20 feet but the index map (Figure 1) suggests it could be 1600 feet by 2000 feet]. Two papers deal extensively with paleomagnetism and potassium-argon ages, one with rhyolites of the Valles Caldera, New Mexico and the other with basalts of Nunivak Island, Alaska. The paper on the Valles Caldera gives the detailed background to the establishment of the Jaramillo Magnetic Polarity Event at its type locality. The paper by Curtis on Katmai seems designed for readers who are already thoroughly familiar with the history of the area and is a poor introduction for an uninitiated reader.

Having recently returned from brief visits to Hawaii and Tahiti, I turned first to the papers on these areas. Hay and Iijima show that palagonites in the Honolulu Group volcanics consist mainly of zeolites that were formed from volcanic glass by cold percolating ground water. MacDonald presents 76 new analyses and gives a valuable, up to date summary of the history, compositions, and probable origin of Hawaiian lavas. The value of the paper would have been enhanced if it had been accompanied by a detailed paper on the experimental data on which some of the conclusions are based. The paper by McBirney and Aoki on Tahiti shows how little is known about the petrology of oceanic islands, how different Tahiti is from Hawaii, and, by this contrast, how strongly our thinking about oceanic islands has been influenced by the superb work on Hawaii. The microscopic drawings of textural relations are excellent and there are 16 new chemical analyses of plutonic rocks, 12 of volcanic rocks, 10 of titanaugites, 4 of kaersutites, and one of titaniferous biotite. Unfortunately, neither the name of the analyst (Aoki?), nor the purity of the analyzed mineral separates are given, nor is there any information on the field work beyond mention of "a brief visit in November of 1965." Interested readers may wish to bracket the next to last paragraph on p. 538 discussing the fact that no dunite or peridotite inclusions have been found. While on a family picnic at Bain Loti in Papeete during a four day visit in November 1968, I found numerous stream boulders with olivine-rich inclusions and collected a few

small specimens under the impression that these would be the normal thing to expect in such alkaline lavas.

At the beginning of the book there is an appreciation of Howel Williams and a selected bibliography. Many of the topics covered by this volume are related to his earlier work. It is surprising, however, that there is not a single paper dealing with the volcanoes of Central America, where he has been so active. The beautiful format and illustrations, including twelve fold-out plates, the quality and range of contributions, and the relatively moderate price make this volume one which many geologists will want to own.

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NOTICES

NEW PUBLICATION

The publication of *Crystal Lattice Defects*, a new international journal edited by R. R. Hasiguti of the University of Tokyo, is announced by Gordon and Breach, 150 5th Ave., New York, N. Y. 10011. It will publish original contributions of experimental and theoretical papers contributing to the understanding of lattice defects in all kinds of crystals. Sections of "Communications" and "Letters to the Editor" will be included. The nominal subscription rate is $41.00 per volume, with a special rate of $27.35 per volume for three-year charter subscriptions entered during the first year of publication; individual subscriptions for personal use are available directly from the publisher only at $13.50 and $9.00 respectively.

DEFECTIVE COPIES OF THE AMERICAN MINERALOGIST

It has been brought to our attention that some copies of the issue for September-October, 1969, contained blank pages. Please examine your copy of that issue. If your copy is defective, notify the office of the Mineralogical Society of America, 2201 M. St., N. W., Washington, D. C. 20037, and another copy will be mailed to you.

AMERICAN CRYSTALLOGRAPHIC ASSOCIATION

For lack of preparation time, a *joint* meeting of MSA and ACA for **August 16 to 21, 1970,** at Carleton University in Ottawa, Canada, cannot be arranged. The Canadian organizers of this ACA meeting are, however, going out of their way to make the meeting of interest to mineralogists. They have asked me to act as program chairman for the mineralogy session or sessions that, they hope, will materialize. There will be an invited speaker talking on a mineralogical subject; a field trip will be organized by Dr. D. D. Hogarth of the University of Ottawa.

The deadline for abstracts is going to be near the middle of June. Mail abstracts to the Organizing Chairman, Dr. M. Przybylska, Biochemistry Laboratory, National Research Council of Canada, Ottawa 7. Any questions concerning the meeting should be addressed to the Local Chairman, Dr. L. D. Calvert, Division of Chemistry, N.R.C. of Canada, Ottawa 7. Let us show our Canadian hosts that their efforts are being appreciated by American mineralogists.

GABRIELLE DONNAY
MSA Liaison Agent with ACA