

LEVINSON (A. A.) and TAYLOR (S. R.). *Moon rocks and minerals*. New York (Pergamon Press), 1971. xiv+222 pp., 110 figs., 8 colour pls., Price U.S. \$11.50.

This readable book gives a comprehensive account of the investigation of Apollo 11 samples and of the preliminary investigation of Apollo 12 samples, with interpretation of the results. It provides less background information than Mason and Melson's recent work [M.M. 38-386], but its treatment is more detailed and more comprehensive.

After a brief introduction, the lunar investigation is described under the following headings: The rocks and soils; the minerals; chemistry of samples brought back by Apollo 11 and 12; bioscience and organic matter; petrology [i.e. experimental]; age of the lunar rocks, isotope studies, cosmic ray and solar wind effects; and physical properties. There follows a short discussion on the origin of the Moon. Included is a glossary of scientific terms, but the book lacks a bibliography, although it is stated that most of the data are taken from the Proceedings of the Apollo 11 Lunar Science Conference (Pergamon Press, 1970).

The book is written 'for the layman', but I feel that more advanced students and scientists will benefit more from it, since the subject matter is diverse and the glossary is not comprehensive. I enjoyed reading this work and found it an easy way of catching up on the lunar researches.

R. HUTCHISON

GARD (J. A.), Editor. *The Electron-optical Investigation of Clays*. London (Mineralogical Society), 1971. ix+383 pp., 244 figs. Price £12.50 (£10.00 to members).

This book, which covers electron microscopy and electron diffraction (scanning electron microscopes and electron micro-analysers are not considered), is the latest of a series of monographs published by the Mineralogical Society on methods of studying clays (details of authors and titles of chapters are given in M.A. 72-65).

The book is the first comprehensive account in English of the use of electron-optical methods for the study of minerals. That it is largely devoted to clays is appropriate, for this group of minerals, because of their small particle size, are not amenable to morphological examination by other techniques. There are already several publications containing excellent electron micrographs of clays and these have encouraged the erroneous belief that clay minerals may be identified by electron microscopy alone. The volume under review, with its emphasis on electron microscopy and electron diffraction used in conjunction, shows that not only can small particles be unequivocally identified but also that relationships between external crystal shape and internal crystal structure can be ascertained for sub-micron sized particles. It not only discusses what has been done but about a quarter of the book comprises a manual of underlying theory and practical advice.

Although mainly concerned with electron micrographs and electron diffraction patterns, many other electron-optical effects such as lattice images, Kikuchi line patterns, imaging of dislocations, oblique texture patterns, and moiré patterns are considered. In the chapters on different minerals the various aspects of their morphology and salient features revealed by electron optical methods are illustrated and discussed. For example, Mering and Oberlin show that selected area diffraction can