

BOOK REVIEWS

MASON (B.) and MELSON (W. G.). *The lunar rocks*. New York and London (Wiley-Interscience), 1970. x+179 pp. 64 figs. Price £4.20.

AFTER an introductory chapter dealing with pre-Apollo knowledge of the Moon, this timely book deals entirely with the detailed mineralogy, petrology, and geochemistry of the various lunar samples brought back from the Apollo 11 manned landing. As anyone will know who has attempted to digest the mass of data assembled by the 140 principal investigators and their collaborators and presented in the special issue of *Science* and in the 3000 pp. supplement of *Geochimica et Cosmochimica Acta*, it is not easy to learn just how much conflict of evidence has appeared and what degree of overlap exists between the efforts of the various research teams. The authors of this book therefore deserve to be complimented in attempting the task of giving a comprehensive review of the results attained. It is undeniably aimed not only at the professional scientist but also the interested student and layman. Lunar petrology is essentially an igneous-rock petrology, with the addition of complex breccias evidently produced by the impact events recorded in the cratered surface of the Moon. The low fugacity of oxygen during crystallization of the lunar rocks has resulted in the appearance of native iron and troilite and has also given the two new mineral phases pyroxferroite, $\text{CaFe}_6(\text{SiO}_3)_7$, and armalcolite, $(\text{Fe},\text{Mg})\text{Ti}_2\text{O}_5$. The authors are well qualified to present the comparisons between lunar petrology and that of terrestrial rocks, meteorites, and tektites: apart from their higher TiO_2 content, the Apollo 11 rocks are considered quite comparable in chemical and mineralogical composition with some of the eucritic meteorites. The evidence from the lunar samples is in general unfavourable for the origin of tektites from the Moon. Lunar geochemistry is discussed element by element: in addition to high Ti all the chalcophile (except Pb), siderophile, and volatile elements are highly depleted compared with the carbonaceous chondrites. The implications of the data from Apollo 11 samples for lunar history are discussed briefly in the final chapter. It is clearly premature to propound a comprehensive theory for the origin and evolution of the Moon at this stage in lunar exploration: further hypotheses will evolve after examination of material from later missions but meanwhile this first concise account of the scientific effort on the lunar samples is most welcome.

R. A. HOWIE

WELLS (A. F.). *Models in structural inorganic chemistry*. Oxford (Clarendon Press), 1970. xi+186 pp., 133 figs., 21 tables. Price £2.75 (boards), £1.40 (paper).

THE interest of the author in the topology of crystal structures is well known; this book represents an attempt at presenting some of the more elementary of his ideas in the form of a coherent course of practical exercises in model building for students of inorganic chemistry at schools and universities. It is doubtful, however, whether