CLARK (J. R.), MROSE (M. E.), CHRIST (C. L.), BLOCK (S.), PERLOFF (A.), and BURLEY (G.), 1958. Bull. Geol. Soc. Amer., vol. 69, p. 1547
CLARK (J. R.), MROSE (M. E.), PERLOFF (A.), and BURLEY (G.), 1959. Amer. Min., vol. 44, p. 1141.
STEWART (F. H.), CHALMERS (R. A.), and PHILLIPS (R.), 1954. Min. Mag., vol. 30, p. 389.

BOOK REVIEWS

Répertoire de Matériel Cristallographique. Edited by A. J. ROSE. xxvi+126 pp. Paris: the Apparatus Commission of the International Union of Crystallography. 2nd edn, 1959. Price fr. 12.50; $2.50 (incl. postage).

This is a second, greatly enlarged edition of the *Index of Manufacturers of Apparatus and Materials Used in Crystallography* first published in 1956. It tabulates equipment and services (with the names of suppliers), published crystallographic charts, nets, and tables, and textbooks. This matter should be very useful, and is well indexed. But a list of journals that include the words 'mineralogy' or 'crystallography' in their titles is almost valueless, for it omits journals, such as Journ. Amer. Chem. Soc., that lack the keywords in their titles but often publish material of crystallographic interest, while including several journals of very minor importance. Nor are 23 pages of advertisements by manufacturers of much value, since they duplicate information already listed. Despite its failings, the work should be of value to crystallographers seeking sources of supply of apparatus and materials. No attempt has been made to assess the relative merits of the equipment listed. The text is in French, with indexes in French and English. Distribution will be free to crystallographers through the National Committees of countries adhering to the Union. Further copies may be purchased from the editor at 1 rue Victor-Cousin, Paris 5; remittances (with order) should be payable to 'Société française de Minéralogie et de Cristallographie (I. U. Cr.)'.

VON HIPPEL (Arthur R.). *Molecular Science and Molecular Engineering.* London (Chapman & Hall), New York (John Wiley & Sons Inc.), 1959, xv+446 pp. Price 148s.

Two previous volumes in this series, *Dielectrics and Waves* and *Dielectric Materials and Applications*, dealt with particular physical properties of materials and their practical applications. The theme of this

book is more general; it is the design of materials with prescribed properties. This contrasts with the mineralogist's study of the properties of naturally occurring substances and fundamentally, as the title shows, it is a subject for the chemist.

The principal contributor several times emphasizes the need for a broad unified outlook on a problem that needs, as authors, two dozen specialists in electro-physics, geophysics, combustion and explosives, physical chemistry, mechanical engineering, ferromagnetics, ferroelectrics, atomic energy, and acoustics. Any probable reader is likely to find some section that contains nothing new to him, though he may well profit from the general picture presented. Mineralogists will find chapters of special interest on crystals, their growth and physical properties, but should remember that the author's whole purpose is to get them looking farther.

After an account of classical concepts of electrical science and engineering, the book deals with structures of atoms and molecules. Electrical conduction and breakdown of gases, the electrical state of the atmosphere, and micro-wave breakdown lead to a discussion of gas discharges as technical devices. The formation of condensed systems is considered thermodynamically and from the structural viewpoint. These systems include condensation polymers. A good deal of attention is given to state of perfection of crystals, effects of irradiation on materials, plasticity, ferroelectrics, and ferromagnetics.

The last chapter on molecular engineering and air vehicles of the future, which touches on some of the possible applications of the ideas developed, might with advantage have been expanded; more detail would have been welcome. From the tables here it may be seen that although molecular engineers are driven to synthetics they still depend greatly on mineral resources.

H. M. P.