

BOOK REVIEWS

DESAUTELS (P. E.). *The Mineral Kingdom*. New York (Madison Square Press), 1968, 252 pp., 147 photos., 144 coloured photos. Price \$14.95.

This book is a magnificently illustrated introduction to the whole range of the mineral kingdom, from the romantic legends of antiquity to the techniques of contemporary earth science. It is intended for the developing interests of the amateur, but it is written from the mineralogist's point of view and most readers of this *Magazine* will find the text absorbing and will be delighted by the many colour photographs of choice specimens from the Smithsonian Institution collections. As well as dealing with gemstones and with industrial minerals, there are chapters on the amateur collector and his hobby and on the minerals of the connoisseur. The amateur mineralogist may, if he cares to, achieve near-professional expertise; the collector becomes a connoisseur when he is able to recognize the best of everything that relates to his hobby, for only then can he begin to acquire it. The author makes the point that in any field classics are established by the taste, experience, and trained eye of the connoisseur and illustrates this with the reproduction of a Jan Vermeer portrait in juxtaposition to an amethyst group from Due West, South Carolina, but also compares a Picasso with Mexican tourmaline, both of which are classics of the present day.

R. A. HOWIE

MEHNERT (K. R.). *Migmatites and the Origin of Granitic Rocks*. Amsterdam (Elsevier Publishing Co.), 1968, x+393 pp., 138 figs., 14 tables.

Professor Mehnert is so well known for his original works on the problems of the origin of granitic rocks that we would expect an authoritative text. We are not disappointed for he makes an admirable attempt to cover the whole field, providing a good summary of the present knowledge of migmatites, especially of occurrences in Central and Northern Europe.

After a thorough discussion of the structure and fabric of such rocks (the section dealing with textures is excellent) there follows an up-to-date discussion of the granite system, the determination of the temperature of formation, and the nature of metasomatic and magmatic processes. With this as a basis various possible origins of migmatites are then debated at some length in chapters dealing with the particular roles of magmatism, anatexis, and metasomatism.

This useful book is marred by being difficult to read; there is a tendency to a verbosity and obscurity of expression that is not merely the result of translation and to add to the reader's difficulties there is an unnecessarily complicated and repulsive migmatite nomenclature. Of course, few would deny the difficulties inherent in attempting a discussion of so variable a group of rocks but the author often seems to be searching for single solutions to problems without considering that there may be a variety of causes for any particular phenomenon.

In the general discussion the role of deformation in the origin of migmatites is

insufficiently emphasized and it seems that the significance of Ramberg's experiments in providing explanations of many structural phenomena of migmatites is not fully realized. Further, the account of the migration of elements is confusing and that of sampling methods, although perhaps suitable for intrusive plutons, is inadequate and unrealistic in dealing with migmatite complexes.

Despite these reservations I liked this book with its wide coverage, abundant references, and discussion of most of the main lines of research on migmatite terrains: the general reader might be discouraged but the specialist will not.

W. S. PITCHER

SALMANG (H.) and SCHOLZE (H.). *Die physikalischen und chemischen Grundlagen der Keramik*. 5th ed. Berlin, Heidelberg, and New York (Springer-Verlag), 1968, viii+450 pp., 197 figs., 56 tables. Price DM 66 (U.S. \$16.50).

The fifth edition of the late Professor Salmang's comprehensive textbook has been revised and re-arranged by Professor H. Scholze whose researches into ceramics are well known. Ceramics are essentially defined by a common process of manufacture in which the powdered material is first shaped and then consolidated by firing. It now includes a very wide range of products, from those based on clay to special ceramics based on pure oxides and other chemicals. The book presents the most recent generally accepted views on structural compositions, types of bonding, surface properties, and thermochemistry, and covers raw materials, manufacturing processes, and properties of finished products together with methods of investigation. In order to cover such a wide field the information is often necessarily condensed, but a large number of references are given to the latest work to facilitate a more comprehensive study of particular topics. The book is well illustrated with diagrams and tables.

P. S. KEELING

MURCHISON (DUNCAN M.) and WESTOLL (THOMAS S.). *Coal and Coal-bearing Strata*. Edinburgh and London (Oliver and Boyd) 1968, xii+418 pp., 124 figs., 21 tables, 41 plates. Price 168s.

This book contains the printed versions of fifteen papers read to the 13th Inter-University Geological Congress appropriately held at the University of Newcastle in January 1965. The papers are assembled under five headings. Part I deals with coal as a rock and contains five papers; Part II, concerned with the sedimentary environment of coal formation, has three papers. Part III has three papers on the biological environment of coal formation. Geochemistry and metamorphism are dealt with in four papers in Part IV, while Part V has two papers on coal basins, including Gondwana coalfields and German Mesozoic and Cainozoic coalfields.

In Part I the uses of the terms 'macerals' and 'microlithotypes' are clarified and their development in coal in relation to the process of coalification described, as well