

text, there are extensive references both in the development of the material and at the end of each chapter. Many chapters are supplemented by examples (with answers), and there are a number of worked numerical examples within the text. Six appendixes contain up-to-date values of the relevant constants for a wide range of materials and conditions. In a preface, the authors express the hope that the expanded scope will increase the audience and the utility of the book. There seems little doubt that their expectations will be fulfilled, for, despite the limitations that any book must have in a rapidly expanding scientific field, they have provided a volume that will both teach and stimulate others to a fuller understanding of the basic problems of geochemical and geological processes.

P. GAY

PEARL (R. H.), edited and adapted by J. F. Kirkaldy. *An introduction to the mineral kingdom*. London (Blandford Press), 1966. 254 pp., 15 colour plates, 37 text-figs. Price: 25s.

The text opens with a short account of the nature of minerals, their importance in the modern world, and a glimpse at the ways of mining and preparing of minerals for use. The identification, composition, and classification of minerals is outlined in an interesting and instructive manner. Under the heading 'Flowers of the Mineral Kingdom' a brief but concise account of crystallography is given. Gem minerals and their fundamental qualities are described and atomic and synthetic minerals are discussed. A very useful bibliography and an excellent glossary are included in the work and consideration is given to the collection and after care of minerals and rocks. The illustrations are good—the coloured ones superb—and the maps are useful. This is a book which will appeal to the general reader and be of considerable interest to the specialist particularly as it has been so well edited for the British scene.

BRIAN SIMPSON

BÖRNER (R). *Minerals, rocks and gemstones*, 2nd edn. Edinburgh (Oliver & Boyd), 1966. xi + 250 pp., 16 colour plates. Price: 30s.

The book is divided into three sections:

In the first section, after a brief explanation of those properties of minerals used in the work, the general make-up of the tables is explained. In the tables the most easily determined physical properties are used, making identification of a mineral species a relatively easy operation. The tables classifying the minerals on streak and hardness are very useful. It seems doubtful if it is worth including good drawings of, for

example, pyrrargyrite and other rarely occurring crystals in a book of this kind.

The second part deals with the rocks; tables and diagrams cover the distribution of the elements in rocks, the composition of the earth's crust, and the average composition of the major rock groups. Tables describing the characteristics of the several rock types and including the uses of such rocks are of great use: the uses to which some rocks are put must pre-suppose considerable capital expenditure or low working costs! It is doubtful what value the inclusion of relatively rare rocks like vogesite, theralite, keratophyre, etc., has in such a work as the present one.

The third section deals with the identification of gemstones. Again the tables are good. Terms such as uniaxial, biaxial, optic axis, and others could have been made much clearer by the inclusion of simple diagrams. It would also have been useful to have a little more extended description of the use of instruments for the identification of gemstones. Synthetic gemstones are considered briefly. The coloured plates are reasonably well done but the inclusion of coloured absorption spectra of selected gemstones would have been useful.

The great value of this book is the presence of excellent tables, the intelligent use of which makes for ease of identification wherever they are used.

B. S.

RANKAMA (K.), editor. *The Precambrian*. Vol. 2. London (Wiley), 1966. vi+454 pp. Price: 113s.

This second volume of the Interscience series on the Precambrian deals with the regions bordering the North Atlantic in Spitsbergen, Britain, Greenland, and Canada. Like the first volume, it consists of several self-contained sections, each of which covers a different region and has a different author. The greater part of the volume is devoted to systematic regional descriptions, which, with the many simple maps and full bibliographies, make the book a valuable work of reference. It is excellently produced and illustrated. Yet the final impression is disappointing.

The Precambrian terrains covered in this volume have been the birth-place of concepts of fundamental importance—for example, the notions of structural provinces, of metamorphic zoning, of the distinction between Oberbau and Unterbau. Yet in spite of the advance of knowledge since these and other ideas were first put out, they are not consistently