

gemstones one to another will change very little, although some of the cheaper gem materials may tend to suffer at the dictates of fashion. Inevitably one can find occasional examples where the prices seem too high but at the present time most of the prices seem to correctly represent the state of the market in gem materials, tending if anything to over-value when compared with European prices. Certainly the retail value data will have to be adjusted to reflect the general rise or fall (?) in the cost-of-living index but the author is to be congratulated on making this courageous attempt to produce a unified and comprehensive reference work. R. A. HOWIE

JOPLIN (G. A.). *A Petrography of Australian Metamorphic Rocks*. Sydney (Angus & Robertson), 1968. x+262 pp., 71 figs. Price A\$8.00.

In this volume the author has followed her earlier published *Petrography of Australian Igneous Rocks* (1964) with a companion study of Australian metamorphic rocks. The work is divided into parts, largely on an environmental basis. The introduction (32 pp.) presents a general account of terminology, classification, and nomenclature, including the structures and textures of metamorphic rocks. It is followed by a study of contact metamorphism and metasomatism as illustrated by Australian examples (56 pp.). A third part entitled Palaeozoic regional metamorphism concentrates on four areas where progressive zones have been mapped, and facies series recognized, these areas being compared with classic metamorphic type areas, particularly in Britain and Japan (52 pp.). Finally, in the fourth part (108 pp.), the largest section of the book, the treatment deals with Precambrian metamorphosed rocks. Here the author is faced with the description of rocks with a much more complicated history. This arrangement inevitably has led to some repetition in the rock descriptions, nevertheless, there are good grounds for a treatment that separates the description of the better known Palaeozoic metamorphic areas with their less entangled history from that of Precambrian complexes where repeated metamorphism is more widespread and difficult to resolve.

As a descriptive account of Australian metamorphic assemblages the book achieves its purpose excellently. The acceptance of modern metamorphic concepts is assumed but there are provided adequate references to the literature relevant to this field of inquiry. The author's beautifully executed microscope drawings of metamorphic assemblages and their textures admirably supplement her text descriptions.

The work will be welcomed not only by students of Australian geology but also by all workers abroad engaged in the field of metamorphic petrology. C. E. T.

VOLNEY (C. F.). *A View of the Soil and Climate of the United States of America*. Translated with occasional remarks by C. B. Brown. Facsimile of the Philadelphia 1804 edition. Introduction by Professor G. W. Wright. New York and London (Hafner Publishing Company), 1968. xxviii+446 pp., 3 maps, and 1 pl. of geol. sections (from the London 1804 edition) in pocket. Price \$20.00.

Constantin-Francois Chasseboeuf, Comte de Volney, a versatile French intellectual

visited the United States from 1795 to 1798. He travelled widely, collected many geological specimens and took an active part in the nascent scientific life of that time. His book is a systematic geographical treatise, describing topography, geology, soils, vegetation, climate, the incidence of diseases, and Indian languages and customs.

As a geologist Volney was remarkably free from prejudice. His observations were mainly lithological, but he noted the dip and superimposition of strata and collected specimens, identified by Lamarck, from fossiliferous beds. He was aware that their fauna differed from that of the present, and attributed them to the more extensive seas of a remote period. Conversely he knew that basalt was the product of volcanic activity, although we may not agree with him that Lake Ontario is the crater of an extinct volcano! He describes the colour, texture, and mineral composition of the rocks he encountered, and gives a clear account of the origin of river terraces and of the extension of the Mississippi delta.

Volney was also a pioneer in soil science. He describes the varying colour, texture, depth, and fertility of soils, and correlates variations in natural vegetation with these differences. He notes the effect of soil erosion, and observed horizonation in soils and its effect on the rooting of trees.

This would be a useful addition to a collection of books concerned with the history of geological science.

C. P. BURNHAM

ROBSON (D. A.). *The Science of Geology in colour*. London (Blandford Press), 1968. 272 pp., 295 figs., including 132 in colour. Price 45s.

Although at a cursory glance this book appears to be yet another semi-popular account in response to the growing interest in geology by the general reader, a more detailed perusal reveals it to be a comprehensive geology text prolifically illustrated both with clear diagrams and coloured photographs. The latter do much to emphasize the grandeur of geology as well as the finer details of minerals and rocks as they appear in hand-specimen. In general the book is well produced but it is unfortunate that the figures and their captions abound with errors, such as the minerals oliving (fig. 35) and silliminite (fig. 65), the omission of the bars over the face indices in several of the crystal drawings, and the classification of igneous rocks on the basis of the relative amount of cole-alkali feldspars (fig. 63). The praiseworthy reproduction of coloured photographs of thin sections of igneous rocks in polarized light is marred by the crossed polaroids photograph of the granite being labelled gabbro and vice versa. It is unfortunate that in a book by a Durham graduate, the name of the river that passes through Durham is given as Weir (fig. 185), though one admires the nice touch of the choice of illustration for the book-jacket. These criticisms apart, this is an attractive and useful book: the use of colour in the block diagrams illustrating faults and folds and in sketch maps is very successful and the author is to be congratulated on including a double-page geological map of the British Isles in full colour. The realistic price should make it a best-seller.

R. A. H.