

difficult to read (e.g. 33, 36, 81, 82) or lacking in substance (e.g. 89). The main problem is with diagrams based on map outlines with a scale too small for the type of information being shown. Both the title and the publisher's synopsis suggest a more comprehensive treatment of island arcs than actually materializes. It is unfortunate, for example, that so little attention is given to petrological and geochemical variations in orogenic volcanic rocks especially since these are likely to have a very direct connection with many of the structural and geophysical properties that are discussed in the book. It is also surprising that although consideration is given to the generation of basaltic magma there are only two passing references to andesite, which is not even listed in the subject index.

The book will undoubtedly be of interest to geophysicists investigating island arcs and to geologists working in Japan. Apart from this, it must be destined mainly for libraries rather than personal bookshelves. This is a pity because by distilling the existing text once more and widening the scope a little it could have had a much wider appeal amongst earth scientists.

P. E. BAKER

KIRKLAND (D. W.) and EVANS (R.), Editors. *Marine evaporites: origin, diagenesis, and geochemistry* (Benchmark Papers in Geology). Stroudsburg, Pennsylvania (Dowden, Hutchison, and Ross, Inc.) and London (John Wiley & Sons), 1973. xvi+426 pp., 210 figs. Price £11.15.

The idea of the Benchmark Papers in Geology series is, in general, a good one, collecting together major papers on a particular topic in a single volume. The books are of particular value to individuals and institutions with restricted budgets.

Any collection of papers, like an anthology of poems, can be criticized for the inclusion of some and the omission of others, and it is some measure of the skill of the editors that this book offers such a balanced view of marine evaporites.

This volume is divided into three major sections, the first consisting of eighteen papers on the origin of evaporites, the second section with nine papers on evaporite petrology, and the final section with four papers on evaporite geochemistry.

The value of this book to students is greatly enhanced by the comments the editors have made on groups of papers that form coherent subsections within the major groupings. These comments underline the history of the research, and in some cases supply up-to-date information on areas of study.

The section dealing with the origin of evaporites is subdivided into three subsections, the first two dealing with present-day evaporite deposits (Holocene or Flandrian) in lagoons and supratidal areas, and the last dealing with ancient evaporite deposits and theoretical models. It is appropriate that the book should open with five papers on sub-marine evaporite deposits, as prior to the last two decades it was generally considered that most evaporites formed in this way. The briefness of the papers on the Caspian Sea is regrettable as this is the most extensive and complex area available for present-day study. The studies reported from Peru, Baja California, and Australia give a well-balanced view of the variations that can occur in basically similar environments.

The seven papers on the development of evaporites in supratidal sediments (the largest number on any topic) covers the work in Texas, Baja California, and the Arabian Gulf. The importance of oil company research in connection with the development of the 'sabkha concept' is not recognized in this volume.

Collected together in the section on Models of Evaporite Deposition are detailed studies of ancient evaporite sequences in the U.S.A. and U.S.S.R. and some useful oceanographic observations of a more general nature.

The three papers on Rhythmic Bedding are well chosen from the literature available in English, to give the conflicting interpretations of the origin of layering together with excellent petrographic descriptions.

The section on Temporal and Spatial correlations using American and German examples should be considered in conjunction with the Rhythmic Bedding papers.

Perhaps the least satisfactory part of this book is that on diagenesis and alteration. The four excellent papers chosen to cover the whole field are not sufficient, indeed a new book on this subject would seem desirable.

The geochemistry of bromine and the isotopes of sulphur are considered from a theoretical and practical viewpoint in as much detail as is consistent in a general book on evaporites.

In my opinion, a useful book giving a good coverage of the origin of evaporites but weaker on their diagenesis and geochemistry.

P. BUSH

BANCROFT (P.). *The world's finest minerals and crystals*. London (Thames & Hudson) and New York (Viking Press), 1973. 176 pp., 72 colour plates. Price £8.50 (\$28.50).

The objective here was to seek out and photograph some of the best minerals in the world. Collectors, dealers, and curators from all over the world were invited to submit nominations of the best example of mineral specimens known to them. From some 150 species nominated, a panel of judges and consultants chose 76, which were then photographed. Thus after a 26-page introduction on how minerals are formed, how some of the world's great collections were started, on some of the current hazards of collecting minerals, and on minerals as a three-dimensional art form, the rest of the book is a series of large colour plates each facing a brief text describing the general species illustrated and the source of the particular specimen chosen. The colour photographs are generally excellent but some of the specimens seem chosen for their size or rarity in a particular form rather than for their intrinsic beauty, e.g. the pink fluorite on quartz or the plate with black crystals (though admittedly large) of hauerite, skutterudite, boléite, and thorianite. Some of the specimens do indeed demonstrate the three-dimensional quality—as in the aquamarine crystals on a matrix of muscovite, albite, and tourmaline (Smithsonian), or the cerussite on matrix (Australian Museum). Of the specimens by themselves this reviewer's personal choice would be the bluish-green reniform smithsonite (Roger Williams, California) or the deep blood-red proustite (British Museum, Natural History), but here one is perhaps judging the photography or the lighting of the specimen, and in at least one plate—that of the