

Fripiat's recommendation of what might be termed the companion book: *Advanced Chemical methods for Soil Clay Mineral Research* (Nato Advanced Study Institutes: Series C: Mathematical and Physical Sciences, D. Reidel Publ. Co., 1980, ed. J. W. Stucki and W. L. Banwart).

W. B. JEPSON

Augustithis, S. S. *Atlas of the Sphaeroidal Textures and Structures and their Genetic Significance*. Athens (Theophrastus Publications) 1982, x + 329 pp. 608 figs. Price 50 \$US (post-free).

This is the most recent in a series of Atlases produced by Professor Augustithis and this volume consists mainly of photographs of sphaeroidal forms found in rocks. These include oolites, pisolites, concretions, stalactites, stromatolites, manganese nodules, nuggets of gold and platinum, amygdales, Rapikivi texture, orbicular texture, pillow structures, augen structure, spherical crystals of plagioclase, rolled garnets, sphaeroidal weathering, perlitic cracks, etc.

There are 28 chapters of text in 89 pages. This is followed by 208 pages containing 608 figures almost all of which are black and white photomicrographs of thin sections of rocks. The quality of the photographs is very variable and although many show what they purport to show, in others it is difficult to know why the photograph is reproduced. This reviewer is very doubtful of the value of a photomicrograph in which the minerals have to be identified by the superposition of letters such as 'pl' over a multiply twinned crystal which looks like a plagioclase, and 'm' over an intergrowth which the photograph is intended to show is myrmekite. In a number of cases a few photographs show almost identical features and the number of illustrations could have been reduced by removing the spare ones.

In view of the fact that this book consists mainly of photomicrographs it is difficult to understand why these are not always sharp—the quality of the paper is good but many of the photographs are distinctly fuzzy while some others have reproduced fairly well.

Reviews in the *Mineral. Mag.* of previous Atlases by Augustithis (R. N. Thompson, 42, 414 and F. G. F. Gibb, 43, 1076) have commented on the fact that this author tends to interpret textures in his own way and to ignore other interpretations. The present reviewer believes that in books of this kind where so many textures are illustrated there is not sufficient space to discuss the evidence for the origin of most of the textures since much of the evidence must come from factors other than just the appearance of the texture.

It is difficult to understand why Professor Augustithis has collected all spherical or sub-spherical textures or structures together in one Atlas. The field covered by this book is too wide for the specialized interests of most geologists. The price of this volume is much less than that of previous volumes of similar size in this series but this reviewer does not envisage a great demand for a book of this type either from students or from teachers.

W. S. MACKENZIE

Berkman, D. A., and Ryall, W. R. *Field Geologists' Manual* (Second Edition). Parkville, Victoria 3052, Australia (Australasian Institute of Mining and Metallurgy), 1982. xiv + 302 pp. Price \$A 25.00.

This book is almost literally a mine of information, containing a wide selection of basic data likely to be required by a geologist during the course of his work. The tables include, for example, a list of some 500 common minerals with their composition, hardness values, and densities; classification schemes for igneous, sedimentary, and metamorphic rocks; size terminology; average abundances for minor elements in the Earth's crust; general notes for geochemical sampling; probability $\times$ three-cycle log graph paper; geological time scale; checklists for recording outcrop information; classification of folds; airphoto scale nomogram; classification of landslides; notes on water sampling and analysis; stereonet (orthographic, Wulff and Schmidt); metric and SI conversion factors; and a seventy-year calendar. Originally written for Australian use, this second edition contains new and updated material and will again lead to the book's wide acceptance as a field handbook.

R. A. HOWIE

Larson, E. E., and Birkeland, P. W. *Putnam's Geology* (Fourth Edition). New York and Oxford (Oxford Univ. Press), 1982. viii + 792 pp., approx. 1000 figs., 16 colour pls. Price £12.50.

In this latest edition the readable and understandable style of the earlier editions of this well-illustrated elementary text has been retained, though much of the material has been revised and updated in line with new ideas. There are new chapters on the solar system and on energy and resources. The emphasis tends to be on physical geology, but the materials that make up the Earth are described and the importance of time as a geological factor is emphasized.

R. A. HOWIE