

lated on an excellent consistency of presentation in such a formidable task of compilation. Finally, should you buy it? For the carbonatite *afficionado* the book is a must, but for other individuals the rather limited subject combined with the high price will inevitably be a deterrent and they will probably be forced to rely on the copies that ought to be purchased by all geological libraries.

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Coleman (R. G.). *Ophiolites: Ancient Oceanic Lithosphere?* (Minerals and Rocks, vol. 12). Berlin, Heidelberg, and New York (Springer-Verlag), 1977. x+229 pp., 72 figs. Price DM. 68.00 (\$30.00).

Robert Coleman in the preface to this book states its purpose as being '... to provide a starting point for anyone interested in the background and state of knowledge concerning ophiolites (ancient oceanic lithosphere)'. The parentheses are Dr. Coleman's and emphasize his views, stated elsewhere in the preface, that '... ophiolites represent fragments of old oceanic crust...'. This is a reasonable attitude for if ophiolites are not fragments of oceanic lithosphere (albeit less than 0.001% of that formed during the Phanerozoic and seemingly mainly formed beneath minor, marginal seas) it is exceptionally difficult to think what they are.

The text is divided into eight parts. Two short introductory sections on 'What is an ophiolite?' and 'Plate tectonics and ophiolites' are followed by lengthy descriptive sections on igneous (72 pp.) and metamorphic petrology (21 pp.), before ore deposits, geological character, and emplacement tectonics are briefly discussed. Part 8 consists of a description of four classic ophiolites: the Bay of Islands, Newfoundland; the Troodos massif, Cyprus; the Semail ophiolite, Oman; and Eastern Papua, New Guinea.

Much of this book is devoted to igneous and metamorphic petrology. This, as becomes a survey geologist, is set out in orderly fashion and, after a brief introduction, each unit, starting at the bottom with 'peridotite with tectonic fabric' and going upwards to 'extrusives', is described. Each section is in turn subdivided into—introduction, structure, mineralogy and petrology, and chemistry. Metamorphic petrology and ore deposits receive similar systematic treatment. Only in the first two parts when discussing 'What is an ophiolite?' and 'Ophiolites in the plate tectonic framework' and in Parts 6 and 7 on 'Geologic Character' and 'Emplacement Tectonics' does the author allow his imagination any liberty.

The book is well presented. The literary style is clear and the diagrams acceptable although most are direct copies of those that appeared in the origi-

nal papers. Referencing is odd. Original sources are only rarely quoted, more recent works of synthesis being usually preferred. Furthermore, certain favoured references are repeatedly quoted whereas others, often of greater significance in the development of the ophiolite saga, are omitted or receive only brief mention. My major comment, however, is about the data the author has seen fit to include and more significantly what he has omitted. For instance, I found the detailed treatment of major element abundances, with its numerous tables of analysis and variation diagrams, unrealistic, for most experts in this field now agree that these data are petrologically unreliable. Conversely, the treatment of stable isotope and trace element information is shallow, dated, and in places naïve. The presentation of four case studies at the end of the volume has necessitated considerable repetition and so far as Troodos is concerned the description given varies in several major respects from the currently preferred model of those working on the complex. At his self-imposed cut-off date (December, 1975), the author was one of the few who had had the opportunity to study the Oman ophiolite. Timing is undoubtedly to blame that in this case recently acquired data could markedly modify the ideas Dr. Coleman presents. On the descriptions of the New Guinea and Newfoundland ophiolites I cannot comment. The other sections are much more generalized and subjects such as 'Ophiolites and plate tectonics' and 'Emplacement mechanisms' have been the subject of several works of synthesis. Here we have a synthesis of syntheses in which the author's own beliefs and predilections show clearly through.

To those involved with ophiolite research this text has been long and eagerly awaited, but, on arrival, it falls somewhat short of expectations. It is good, but it could have been so much better. Yet, the author is the doyen of north American ophiolite geologists and uniquely well equipped to prepare this text. It fails to totally satisfy, probably because one view and one style of treatment dominates in an area where there are multitudes of approaches, opinions, and beliefs. Also, many statements are polemic and other passages contain little that either advances knowledge or promotes debate. The wisdom of asking any one person, however expert or eminent, to prepare an advanced text of this nature is questionable. Nevertheless, there is no doubt that this book will be a useful addition to any geological library and a valuable reference source for those engaged in ophiolite research for although the information it contains has mostly appeared elsewhere, this is the first time a synthesis of this detail has been prepared and bound into one volume.

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