

are largely to the geology section and reflect the quantity of research that has been carried out in Karnataka since the inception of the first edition. The text is specifically written without inclusion of references and, although there is a comprehensive selection at the end of each chapter, some might find this a little frustrating because at times it is difficult to follow through which opinions belong to which author. A decision that is slightly odd, particularly in today's commercially-oriented world, is to ignore mineral resources and economic aspects – they are to be presented in a second volume. However, that said, the aim of the book is to summarize the geology for non-specialists and there has to be a time when the 'new' interpretations become those that are accepted as the best current explanation. In this sense the new edition does succeed as a readable and convincing summary of some of India's most important geology.

Following two introductory chapters, one on the early pioneers which sets the context of the development of geological research in the State, and a brief introduction to the geology, the next seventeen chapters are essentially arranged in stratigraphic order dealing with the oldest rocks first. Karnataka is dominated by Precambrian geology and so discussion of Archaean and Proterozoic rocks dominates the volume. Individual chapters review the geology of the ancient supracrustal rocks, the main gneiss complex and the different younger schist belts. Chapter 8 deals with the development of granulites and the problems of arrested granulite 'charnockite'. Chapter 9 deals with the 'younger' granites, one of which forms a major feature through the State. Rocks from the Proterozoic are well represented in the State and the coverage they receive provides good examples of intracratonic sedimentary basins. There are also important exposures containing evidence of early life, often in the form of stromatolites, but also less obviously in the form of microscopic filaments and crude colonies. Such evidence from the Archaean and Proterozoic is reviewed in Chapter 13, before a brief discussion on the place of India within Gondwana. Three chapters then discuss the Deccan, various dyke rocks, and lastly, a summary of events during the Tertiary.

Two chapters deal with laterite and black soil development before the final chapter discusses the general geomorphology. A brief subject index is provided to assist in finding one's way through the volume.

The authors have done a fair job in presenting only those hypotheses that are reasonable (given our present geological knowledge) and so permit the beginner to form a sound understanding of the overall geology. There are many illustrations, some of variable quality, and a few of the many photographs have suffered in their reproduction. However, this need not be of great concern as the intentions are largely clear. The inclusion of a generalized coloured map of the State is welcome. As an up-to-date description of the geology of Karnataka the book has much to recommend it. The readership is likely to be students and those generally interested in Indian geology rather than the specialist who might be expected to go directly to the original papers. C. R. L. FRIEND

Hurlbut, C. S., Jr. and Sharp, W. E. *Dana's Minerals and How to Study Them* (Fourth Edition). Chichester and New York (John Wiley and Sons), 1998. vii + 328 pp. Price (paperback) £32.50. ISBN 0-471-15677-9.

This book is intended mainly for beginning students and amateur mineralogists. Although, in the interval of almost fifty years since the third edition, great strides have been made, thanks to new, elaborate and sophisticated instrumental techniques, the authors feel that while the students must indeed be informed of these new techniques and what they can accomplish, there remains a place for the old, simple, easy-to-make tests. Thus after chapters giving hints on how to study minerals, and an introduction to crystals and crystallography, the fundamental properties of minerals, mineral chemistry (including blowpipe and borax bead tests), and mineral genesis are described. Individual descriptions of some 150 mineral species (in 150 pages) are followed by determinative tables. There are numerous photographs and line-drawings as well as eight colour plates. R. A. HOWIE

Perkins, D. *Mineralogy*. Upper Saddle River, New Jersey 07458 (Prentice Hall, Inc.), 1998. x + 484 pp. Price £29.95. ISBN 0-02-394501-X.

The author claims that many otherwise excellent mineralogy texts are not appropriate for undergraduate use because they do not stimulate students or present information in ways that help students to learn. This student text thus aims to

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make mineralogy less boring by de-emphasizing facts and sacrificing some completeness by providing a book that students will enjoy reading. The order, style of presentation and depth of coverage are different from most such texts. With the exception of the first chapter, topics are covered 'beginning with the big, easy-to-see picture and ending with the details and theory'. The three main parts of the book are: (1) mineral properties and occurrences;

(2) symmetry, crystallography and atomic structure; and (3) mineral descriptions, together with six appendices with identification tables and minerals in the order of their physical properties; there is also a glossary of over 1000 mineralogical terms. The book is well illustrated with line diagrams and black-and-white photographs, and there is an insert with eight colour plates.

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