

there are no obvious typographical faults. Perhaps plate 95 on p. 144 was printed upside down.

I would take the authors to task about their disregard for the findings of the International Commission for Mineralogical Nomenclature, where terms and names, presumably in general use in the Broken Hill area, have been used in the text rather than those recommended by the Commission, such as: 'Barite'—Baryte (p. 87), 'Pyrrhotite'—Pyrrhotine (p. 160), etc. The same criticism may be directed at terms used in the glossary which may be of local usage, such as 'Azoic'.

It was sad to see the discarding of such names as campylite in Table 9.2, though the reasons for doing so are explained in the text of Chapter 8, and of chalcotrichite in Table 9.3, though the latter name is used in the text (p. 112). Nantokite is misspelled throughout and bindheimite is wrongly described as a hydrous lead sulphate on p. 87.

These few criticisms may be pedantic and they take nothing away from this magnificent piece of work. After reading it one is left with the impression that the authors have described the cream of what is known about Broken Hill and have made it abundantly clear that there is still much to do.

This is a fine piece of work which must surely set a standard for subsequent work. The editors and contributors are to be congratulated. I have no reservations about recommending this fine book to geologists and mineralogists at all levels. It is a bargain at £29.30.

R. J. KING

Kempe, D. R. C., and Harvey, A. P., eds. *The Petrology of Archaeological Artefacts*. Oxford (Oxford University Press), 1983. xvi + 374 pp., 49 figs., 66 pls. Price £30.

The stated aim of this book is to 'provide a comprehensive review of the current state of knowledge of the petrology of archaeological artefacts'. Of its eleven chapters, eight are based on artefact or rock type and include building and sculptural stones, vitrified forts, axes and tools (grouped according to whether they made of obsidian, jade, or 'stone'), grinding stones, ceramics, and native metals and minerals. These articles benefit from the expertise of the authors, many of whom are, or have been, very active in the fields which they review. The coverage of the literature is extremely thorough, and most of the topics are set authoritatively in a theoretical framework and in the context of the history of research. Given the nationality and interests of most of the authors, the coverage is less biased towards UK and Old World archaeology than might have been expected and

a commendable and generally successful attempt has been made to provide a world-wide review which rarely degenerates into a list of places and papers.

The emphasis here is on the identification of the rock type used to produce an artefact and the location of its source or provenance. To this end, one or more of a range of techniques, including thin-section petrography, elemental analysis, and stable isotope analysis is used to 'fingerprint' the object and relate it to a source quarry or outcrop which has been characterized using the same technique. The power of trace-element analysis in provenance studies is well illustrated in the case of obsidians, reviewed by J. R. Cann, and it is finding increasing application in the examination of petrographically uniform materials such as jade and flint. However, the wide variation in the trace-element composition of marbles on a local scale has led to the application of oxygen and carbon isotopes to provenance classical statuary, while optical methods alone have proved successful for the majority of rock types.

In the production of a volume such as this, where the potential readership is drawn from more than one field, there is an inevitable problem as to the amount of background information to provide for the non-specialist and its presentation. The editors have decided to grasp the nettle and present two chapters, one on analytical methods and the other on 'raw materials' (essentially rock nomenclature and classification). Disappointingly, I found neither chapter completely successful. The techniques chapter will be compared unfavourably with the several textbooks on the subject aimed specifically at the archaeologist, while the usefulness of the twenty pages of thin-section photomicrographs is severely limited by the absence of labels and of accompanying explanation.

However, this should not be allowed to detract from the success of the book in its stated intent. A vast amount of material is assembled between its covers, and it will become an essential entrée to the field for any earth scientist who is confronted with a problematic artefact by an expectant archaeologist. It should make interesting reading for anyone with a well-informed interest in rocks and minerals. Here is outlined both the ingenuity of pre-industrial man in his selection and utilization of this fundamental raw material, as well as the ingenuity of his descendants in the investigation of this behaviour. I would expect to see it on the bookshelves of many mineralogists were it not for the price, which while not extreme for a book of this length by today's standards, may act as a deterrent.

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