out of Pakistan since then. The authors, both German and Pakistani, are more familiar with the geology of the foreland and the western ranges than the geology of the Himalaya and Karakoram. Indeed the classic Kohistan terrain is given only a few pages and the Karakoram geology even less, with almost all the key references missing. By far the most useful part of the book is the three large fold-out maps, at a scale of 1:500 000, of the Western Fold Belt compiled from Landsat MSS Satellite Imagery by D. Bannert, A. Cheema, A. Ahmed and U. Schäffer. These colour maps interpret the stratigraphy and structure of this remote and somewhat inaccessible area along the western borderlands of Pakistan with Iran and Afghanistan, which form the western transpressional margin of the Indian plate. The book and the maps are well produced, and, although expensive, priced at DM 248 (US$ 178) will form a useful library reference volume for some of the basic data on Pakistan.

MIKE SEARLE

Ehlers, J. *Quaternary and Glacial Geology* Chichester and New York (John Wiley and Sons), 1996, xii + 578 pp. Price £75.00. Hbk. ISBN 0 471 95576 0

This book is a translation of the author's original *Allgemeine und historische Quärtargeologie* with editing by P.L. Gibbard. In many ways it is an update of R.F. Flint's 1971 classic *Glacial and Quaternary Geology*, also published by Wiley. Alas, modern printing quality does not equal that of 25 years ago. Ehler's book is effectively two separate ones of similar length within the same cover — an overview of glacial and periglacial geology (Sections 1 and 2) and an outline of Quaternary Geology with reviews of selected areas of the northern hemisphere (Section 3). There is a huge reference list which, with the index, occupies over 1/5th of the pages.

P. WORSLEY

Craig, J. R. and Vaughan, D. J. *Ore Microscopy and Ore Petrography*, 2nd Edition, Chichester and New York (John Wiley and Sons, Ltd). 1995 xiv + 434 pp. Price £18.95. ISBN 0471115991.

Some geology textbooks prove to be invaluable as sources of information or handy reference books whereas others, for no apparent reason, lie in nearly mint condition on the bookshelf, read through once then consulted very occasionally for a very limited range of points. It is often not obvious why books fall into the former category; ease of use, logical layout of topics and information so that data may be found without recourse to the index may all contribute, or it may just be a personal response conditioned in the formative stages of one's training. Craig and Vaughan's *Ore Microscopy and Ore Petrography* has been in constant use, readily accessible for reference, lying beside my reflected light microscope. For a paperback book it has lasted very well considering the amount of use it has had. However, age and hard use have taken their toll and the cover has become raggy and, despite several running repairs with parcel tape, blocks of pages threaten to escape unless carefully looked after. The publishing of a 2nd Edition has come just in time and allows comparison to be made with the edition it supersedes.

The first impressions are not particularly encouraging. It is smaller and thicker and the cover illustration in evolving shades of brown of concentric growth banding, showing sequential development of hematite and goethite in pisolitic iron ore, has given way to white lettering on plain black. Clear? Yes, but perhaps a trifle funereal. Opening the book the overall darker impression persists; narrower margins and more lines to the page make the print seem bigger and the layout more cramped. While some of the photomicrographs have been replaced with better examples others are less clearly illustrated in the 2nd Edition, leading to the impression that less care has been taken in the quality of the printing.

In content the book is reassuringly familiar, with the rewriting restricted largely to adding additional sentences and paragraphs to explain points more clearly and incorporating descriptions of newer techniques such as a semi-automated reflectance measurement or newer examples, including the paragenesis of the Mashan gold-base metal deposit, in new sub-sections. On the principle of "if it ain't broke, don't fix it" the authors have maintained the best of the 1st Edition but, even so, reflected light optics seem just as difficult!

Perhaps the most obviously altered chapter covers ore mineral textures. The changes bring in numbering of the sub-sections in conformity with the rest of the book as well as modification of the layout of the sections on replacement textures and cooling textures. A new section covers the textures of placer grains which was a significant omission in the 1st Edition. Throughout this chapter are minor amendations, rewritten and enlarged introductions, additional explanatory sentences and some new diagrams.

Chapters 9 and 10 on ore mineral assemblages retain the same layout but have been generally updated bringing in newer examples and references. The reference lists are considerably more extensive and up to date but, in a less welcome change, are now lumped together at the end of each chapter rather than being given specifically at the end of each section. Though the occurrence of opaque minerals in

coal remains much the same as in the 1st Edition, coal petrography itself has been expanded from a single short paragraph to cover four pages and has illustrations of various macerals.

The appendices remain as useful as before, with optical data clearly laid out. New values, particularly for reflectance, have been incorporated not just into the appendix listing reflectance values but the major table of the diagnostic properties of common minerals has also been amended. Ancillary Techniques now extend far beyond X-ray diffraction and electron probe microanalysis. Outlines of SEM, Scanning Tunneling Microscopy and Atomic Force Microscopy are given, together with microbeam methods of trace element and isotopic analysis and image analysis.

The 2nd Edition of *Ore Microscopy and Ore Petrography* remains the basic textbook for reflected light microscopy at both undergraduate and post-graduate level and a useful reference book at any level. The alterations to the 1st Edition represent significant improvements and updating of an already excellent text, making the book more complete. It is to be hoped that the cosmetic changes were made in order to keep the price of this invaluable book down. Will the 2nd Edition survive regular use as long as the 1st Edition did? Only time will tell, but it will certainly get as much use. R. J. L. COLVINE

Ford, T. D. *The Castleton Area, Derbyshire.* London (Geologist's Association), 1996, iv + 94 pp. ISBN 0-900717-98-X. Price £8.50.

Although this area of Derbyshire is much visited by field parties, there has hitherto been no comprehensive guide to all aspects of the geology and geomorphology of the caves and mineral deposits of the Castleton area. In this latest of the Geologists' Association Guides (No. 56), after introductory chapters on the geology and geomorphology of the area, the main part of the book describes four itineraries, each designed to occupy the best part of a day on foot (though some of the itineraries can be shortened to meet transport *en route).* In addition to the four route maps, there are many other maps, sketches and photographs, amounting to a total of 65 figures. Descriptions are given of the Blue John deposits in Treak Cliff and of the mineral veins in Dirtlow Rake and the bitumen deposits of Windy Knoll, collectively referred to as elaterite but now known to contain some 30 varieties of hydrocarbon.

R. A. HOWIE

Tomlinson, J. M. (with geological appendices by T. D. Ford), *Derbyshire Black Marble.* Matlock Bath (Peak District Mines Historical Society, Spec. Publ. No 4), 1996, 95 pp. Price £9.95. ISBN 0-904334-04-X.

This work gives a beautifully illustrated account of the black marble from Ashford-in-theWater, near Bakewell in Derbyshire, and the inlay work carried out in it, using such materials as Blue John, malachite, baryte and various coloured marbles. The Ashford marble is a very fine-grained, dark, bituminous limestone of Carboniferous age; this was mined from around 1750 until 1905. Both smaller items such as brooches, pendants, paperweights and candlesticks, and the larger tabletops and urns are now collectors' items. There are numerous colour plates and also black-and-white photographs of the workshops; in an appendix, photographs are given of some of White Watson's geological tablets showing cross-sections of Derbyshire strata. R. A. HOWIE