through the whole text to find what you want. Mercifully, the North Sea is an exception to this rule. Chapter 10, entitled *Thoughts and speculations on geodynamic processes*, acts as a synthesis and is a pleasant blend of simplified summaries of plate movements together with a discussion on modern tectonic processes for basin formation and deformation.

The plates are magnificent full-colour productions, crammed with detail and interest. Twenty-one palaeogeographic maps cover 400 million years of sedimentation patterns and tectonic events of a block of the Earth's crust almost 7000 km^2, centred on Scandinavia, although of course continents come and go with time through the field of view (Africa is my particular favourite). These are supplemented by 74 tectonostratigraphic columns in nine plates, covering first the Palaeozoic and then the Mesozoic–Tertiary development of the major basins of the Atlantic–European region. The columns are linked in fence diagram form to ease comparison through or between basins. All the plates are colour-coded: the columns to indicate depositional environment and lithology and the maps to show the nature of basin sedimentation and tectonic stability.

These colour plates, which readers may have seen as slides at Ziegler's conference papers over recent years, form the centrepiece of this memoir. In them the data are clear and succinctly presented, albeit in a generalized form, and each plate must represent hundreds of hours of painstaking correlation and synthesis. They reward careful study with new or more complete ideas, and on their own make this book a must for those whose work includes regional tectonic modelling and plate movement analysis for post-Caledonian Europe.

The text is much more disappointing. Here, by and large, brevity does not mean elegance, but more usually reduces the geology to one-line comparisons of areas with unfamiliar names in a style which I find difficult to follow and impossible to comprehend. Obviously, this type of overview of such a wide subject area means that there is little room for detail, but the text demands real hard work from the reader to grasp the essential nature of each basin. For me, there is a yawning chasm between the amount of geological data which oozes out of the plates and that which can be prised out of the text. The text is, however, liberally illustrated with colour diagrams which offer both relief and information.

Readers will naturally turn to basins and systems with which they are familiar, and will find there brief but accurate statements of the geology. For most of us, many of the basins covered in this memoir are unfamiliar, so I earnestly hope those areas are accurate too. Throughout the text, I would like to have seen a little more detail to support my hopes. For example, we are told (p. 37) that in Bjørnøya, "wrench-induced basin inversion occurred during the Sakmarian". How do we know?

I am sure the answer to my question is to be found in the reference list, which is extensive and up-to-date, considering the book was actually written in late 1986. This list alone is worth having. The index, by contrast, is very poor. If ever a book needed a good index this was it, and at times I found myself wondering if the real index had been inadvertently left out. The one that is included was written for computer indexing purposes and falls far short of being a useful guide to the contents. You will have to go searching for subject matter that interests you.

All in all, this is a valuable résumé of a vast chunk of geological knowledge—a snip at $60. Institutions should have a library copy and interested individuals will find a great deal of thought-provoking ideas and information here, like I did. I can promise each reader that they will find something they did not know, as well as something to disagree with, in this memoir. I have learned much from it already, not least that it is almost impossible to review!

Andrew Bell

Penrith, U.K.

Structural geology for beginners

Park, R. G. 1989. *Foundations of Structural Geology* (2nd edn). Blackie, Glasgow. Price £12.95 (paperback), £30 (hardback).

"This highly regarded textbook is specifically tailored to the requirements of students at the early stages of their studies . . . The second edition has been carefully revised, and now contains new sections on extensional settings, strike-slip tectonics, collage (?) tectonics, the use and interpretation of stereograms and elementary geological map analysis."

For once the publisher's 'blurb' is a fair description of the second edition of this excellent little book. There is indeed, a new introductory chapter on *Basic concepts* which defines and explains bedding, formation, unconformities, etc., the geometry of planes and lines, and then in two pages attempts the "elementary geological map analysis" referred to. An Appendix similarly attempts to introduce the stereographic projection, which will certainly help the uninitiated to understand the stereographic representations in various diagrams. Otherwise, these new sections do not greatly enhance the book.

The other principal additions are the useful sections on extensional and strike-slip faulting and on the Makran complex. The sections on Central Asia and the Caledonian of Britain have also been up-dated. These revisions involve new diagrams which unfortunately are not compatible in style with the others, nor are they generally of the same high quality of draftsmanship as those of the first edition, with their excellent use of a second colour.

Indeed some of the original diagrams have had their second colour removed and in two instances the printer has accidentally omitted it. The photographs were never a strong point and although the opportunity has been taken to replace the worst, the almost indecipherable pictures of slickensides and cleavage refraction remain.

Unfortunately, this juggling of diagrams and photographs has led to erroneous references in both text and captions (pp. 19, 24, 133 and 135) and no reference to the new photographs in fig. 10.11. Three mistakes I spotted in the first edition that may cause confusion to students have not been rectified (equation 8.3; p. 63 shear and normal stress wrongly attributed; caption to fig. 6.11); I hope there are no more.

Although I think it is a pity that the chance was not taken to update the book further (e.g. *C–S* fabrics, shear criteria) and that more attention was not given to the points raised above, this still remains an invaluable text for the beginner in structural geology. It is clearly set out, concise and as comprehensive as you can expect at this length (148 pp.). At the moment, its only competitor in the U.K. at this price is McClay's superb *The Mapping of Geological Structures* (Open University Press, £7.95) which achieves far more at the small-scale but lacks, of course, the large-scale treatment.

J. E. Treagus

Manchester, U.K.