

Searle, M. P. *Geology and Tectonics of the Karakoram Mountains*. Chichester (John Wiley and Sons Ltd.), 1991. xviii + 358 pp., 1 coloured geol. map (1:250000). Price (boxed) £175.00.

This is an impressive book. It summarises past and recent knowledge of the geology of the Karakoram mountain range and reviews and interprets its development in relation to tectonic problems and models. One of the most valuable parts of this box-set is the coloured geological map on a scale of 1:250,000. This map and book are the culmination of five years of mapping and subsequent laboratory work by Searle and his colleagues. He has integrated well the recent results with those of earlier geologists, in particular those of the Italian expedition led by Professor Ardito Desio.

The first three chapters provide the regional geological setting by detailing the geophysical and palaeogeographical constraints on the India-Asia collision, as well as the tectonics of Central Asia and the Himalaya. The main section of the book consists of separate chapters on Kohistan, the Western Karakoram (Chitral-Yasin), the Hunza region, the Northern Karakoram (Shaksgam, Shimshal, Gasherbrum Group, K2 gneiss), the Karakoram batholith (Baltoro, Biafo, Hushe), the Karakoram Metamorphic Complex, and the Eastern Karakoram (Siachen-Nubra-Ladakh). A useful compilation is made throughout of the isotopic data that provide constraints on the timing of events. Two chapters deal with Quaternary and Present glaciations, and geomorphology, climate and neotectonics. Finally, there is a valuable synthesis and interesting discussion of the orogenic processes responsible for the development of the Karakoram. This includes pre-collisional crustal evolution such as the Kohistan-Karakoram collision, the India-Asia collision, and post-collisional crustal problems such as isograds, P - T - t paths, closing temperatures and cooling paths, uplift-erosion-exhumation, magmatic evolution, crustal shortening and thickening, crustal underthrusting and subduction and indentation-extrusion tectonics. The book is very attractively produced by Wiley. It is well illustrated with many photographs of rocks and geological scenery, and maps and sections, very many of which have been specially drawn. And Searle writes well.

The reason why this book is important for the Science is because it would be impossible to summarise all the inter-related geology and discuss all the relevant tectonic, magmatic, geochemical, metamorphic and neotectonic prob-

lems in a single paper. We need more books like this which bring together for the reader in one palatable form the geology and development of whole orogenic belts whether they be Phanerozoic, Proterozoic or Archaean. We should be grateful to Mike Searle for slogging up the glaciers of the Karakoram in the first place, and then for sitting down to produce such an excellent and interesting synthesis for us. But it is a pity it is so expensive.

B. F. WINDLEY

Powell, D. *Interpretation of Geological Structure through Maps*. London (Longman), 1992. x + 176 pp. Price £13.99.

This is the latest in a positive glut of books on Map Interpretation—considering the paucity up to about five years ago. Since Moseley's (1979) book with its very personal selection of exercises based on real maps, there have been Butler and Bell's [M.M. 53657] laudible attempt to broaden the whole scope of map interpretation, Lisle's (1988) admirable small book on basic techniques and recently Maltman's (1990) excellent text based on real map examples. In addition, among the old school of 'straight strike-line problem map' books, that by Bolton (1989) is a greater improvement. Each of these offers a different approach to teaching map interpretation. Derek Powell's book is rooted in the strike-line (structure-contour) school, based on problem-maps, but in its depth, variety and execution it sets new high standards.

The first two chapters, which introduce the reader to the nature of geological boundaries, are accompanied to great effect by superb 3-D diagrams which are the hall-mark of this book. The (presumed self-teaching) reader is then taken chapter by chapter through planar surfaces, outcrop shape, linear structures, drill-hole data, isopachytes, faults (very listric), folds (including minor structure analysis) ending with eight general map exercises. The book really ends with another of its innovative features—a detailed analysis of the solutions to the thirty-odd exercises that are developed within the text. The text is accompanied throughout by maps so beautifully drawn that you are persuaded they are real and the level of instruction and cross-referencing is exemplary.

A few—perhaps minor—quibbles. In a book that puts a proper emphasis on unconformities, it is surprising that no mention or analysis is made of facies changes which inevitably accompany the process; similarly, there is no analysis of the