

three hundred pages can one find a punch-line. Yet, the text is so simply and attractively written that, I am sure, students will find it good to read. The major disadvantage lies in the derivative quality of illustrations and their totally diagrammatic flavour. Furthermore, the figures are grouped at the end of each chapter and therefore one has to refer backwards and forwards too frequently and the index is totally inadequate.

The last shortcoming to be noted is that geographical locations are often not indicated on any maps. Knowing the geographical limitations of a majority of North American students, and for that matter their professors as well, a greater care should be taken with specific locations and location-derived geological names. I assume that the map in the pocket of the volume is supposed to serve this purpose, but it has too few details and is coloured in such violent shades that its use can only be recommended to the colour blind, or distant students wearing polaroid glasses.

Despite these disadvantages, which compound its relatively high price, I have no hesitation in recommending it to senior undergraduates or even beginning graduates and I shall certainly adopt it for a small specialist course in Geodynamics that I offer at the university where I teach.

N. RAST

Nicolas (A.) and Poirier (J. P.). *Crystalline Plasticity and Solid State Flow in Metamorphic Rocks*. London and New York (John Wiley & Sons), 1976. xviii+444 pp., 246 figs., 27 pls. Price £20.00.

A volume in the series 'Selected topics in Geological Sciences' edited by Professor M. H. P. Bott, which intends to cover topics within which there have been recent advances in knowledge. The series is aimed at teachers, undergraduates, postgraduates, and professional Earth scientists.

This particular volume attempts to give the full background of physical metallurgy that is necessary to describe and interpret the shape and lattice fabrics, and textures of strained rocks. It uses work by the authors and others on fabrics, textures, and megascopic structures in peridotites to illustrate the application of the 'physical metallurgy approach' to geological problems. Using the conclusions gained from this application, the authors finally discuss the probability of upper-mantle flow by diffusion controlled dislocation creep and comment on more general problems of the interpretation of structures in metamorphic rocks.

The book constitutes a very useful addition to the geological literature inasmuch as it discusses in depth many of the principles and practices of physical metallurgy, which are of undoubted significance to the geologist. It provides further a stimulating, if controversial, example of the application of these to interpretation of the behaviour of various Alpine and other peridotite massifs and through these the mantle. It is, however, written at too high a level to be readily understood by the average undergraduate, even many postgraduates, and will thus be a main text for only specialized postgraduates and researchers in certain fields of structural geology, metamorphic petrology, tectonics, and geophysics. It is a book that should, however, be on the shelves of libraries wherever geological research is undertaken. It is, to my knowledge, the only book that presents so fully the world of physical metallurgy to the geologist.

D. POWELL