

BOOK REVIEWS

PAULITSCH (P.), editor. *Experimental and natural rock deformation. Experimentelle und natürliche Gesteinsverformung*. Berlin, Heidelberg, and New York (Springer-Verlag), 1970. x+525 pp., 255 figs. Price DM 94 (\$25.90).

This is a collection of twenty-one original papers that constitute the proceedings of a two-day International Symposium held at Darmstadt in February 1969. It is dedicated to Professor B. Sander in honour of his 85th birthday.

The contributions are international in their authorship, nine of the papers being written in German, some of which have an English abstract, the remaining twelve being in English. Six papers deal with aspects of X-ray petrofabric analysis and the processing of X-ray and optical data by computer. Nine papers present new information concerning the experimental deformation of calcite, anhydrite, galena, sphalerite, plagioclase, and quartz together with a report on the use of the Electron Scanning Microscope in the study of fine-grained fabrics. The remaining six papers come under the heading of 'field work' but range in subject-matter from the structural geology of areas in Scandinavia, the eastern Alps, and Canada to a review of the possible orientating mechanisms of γ -olivine and a discussion of the analysis of grain shapes in rocks. Authors and titles are listed in full in M.A. 71-829.

The papers generally present new and useful information concerning techniques of analysis and the results of both natural and experimental deformation of certain rocks and mineral species. The general approach, however, is somewhat 'Sanderian' and those sections concerned with natural deformation of rocks lack, with notable exceptions, a firm link with the structural environment.

The book will be useful to specialists in the fields of structural geology and experimental rock deformation.

D. POWELL

SINKANKAS (J.). *Prospecting for Gemstones and Minerals*. London and New York (Van Nostrand-Reinhold), 1971. xviii+397 pp., 133 figs. Price £3.50.

In recent years amateur mineralogists and collectors have learnt to appreciate and respect the writings of John Sinkankas. Their convictions will be strengthened by this, the second edition of his work, first published in 1961 under the title: *Gemstones and Minerals. How and Where to Find Them*. This new edition is updated by the inclusion of new techniques, the expansion of certain sections, and the exclusion of recently outdated material.

The book has been written for the budding American mineralogist and its uses to his British-based counterpart are therefore limited. The latter will find the explanation of the Township Range System, used on American maps, to be of little direct value, nor will certain of the appendices, including the lists of American reference libraries, be of use to him. The British mineralogist should also be aware of the American style of spelling of the names of certain minerals, e.g. 'barite' instead of 'baryte'.

With the desperate need for conservation of geological and mineralogical sites in Britain, the use of explosives should be considered completely unethical. For the section in chapter two, dealing with explosives, to fall into irresponsible hands is unthinkable.

In spite of these criticisms the book has much to offer. The nine chapters take the prospective mineralogist, in an easily readable and practical manner, through the planning of a mineral collecting excursion, the use of tools, how rocks and minerals are formed, collecting techniques, the curation of material acquired, and finally suggestions for the disposal of excess acquisitions. With the rapidly increasing value of mineral specimens, chapter nine, which deals with this latter aspect, should help the young collector towards a better understanding of the value of his collection. Throughout the text figures are excellent and self explanatory.

In view of the current dearth of curatorial literature in the geological field, the book should provide the budding mineralogist with a valuable outline on preservation techniques; cataloguing; labelling and storage and their accompanying problems. The question of 'pyrite-rot' could have been dealt with more fully and the new and much more efficient techniques in the use of bacterial inhibitors explained.

This is a book written by a man who has obviously experienced the conditions and circumstances, used the tools, and applied the techniques he writes about.

R. J. KING

NEWALL (G.) and RAST (N.), editors. *Mechanism of Igneous Intrusion*. Liverpool (Seal House Press), 1970. xii+380 pp., 118 figs. (4 coloured), 24 pls. Price £7.00.

This book, which forms Special Issue No. 2 of the *Geological Journal*, is a collection of 21 articles, which were delivered as lectures at a Symposium held in 1969 in the University of Liverpool. In the preface the editors state that the theme of the book is 'the physical conditions of initiation, ascent and emplacement of magmas, at various levels of the Earth's mantle and crust'. However, there are chapters on experimental model studies and rock mechanics. The subject-matter has been divided up into 6 parts: Part 1, Introduction; Part 2, Field aspects of igneous complexes (5 contributions); Part 3, The form and emplacement of igneous intrusions (5 contributions); Part 4, Experimental data and the generation of magma (5 contributions); Part 5, The theory of magmatic ascent and emplacement (4 contributions); Part 6, A discussion summary.

In the introductory article, E. K. Ustiyev describes the geological relationships between volcanism and plutonism during the evolution of various orogenic belts of the U.S.S.R. and adjacent areas.

A. C. Dunham discusses three specific problems in considering the emplacement of the Tertiary igneous complex of Rhum, these being the emplacement of the layered ultrabasic rocks, the emplacement of the granophyres and felsites and their structural and genetic relationship to the ultrabasic rocks, and, thirdly, the reason why there is an igneous complex situated on Rhum. A description is given by C. J. Stillman of the sequence, form, and mode of emplacement of the various intrusions comprising