

BOOK REVIEWS

Prendergast, M. D. and Jones, M. J., Eds. *Magmatic Sulphides—the Zimbabwe Volume*. London (Institution of Mining and Metallurgy) 1989. 254 pages. Price £55.00.

This volume contains 18 papers out of a total of 27 that were presented at the Fifth Magmatic Sulphide Field Conference held in Zimbabwe in August, 1987, as the last event to be organized by the International Geological Correlation Programme Project 161.

The first three papers (involving contributions by Prendergast, Wilson and Keays) are devoted to the Great Dyke which not surprisingly, was a major theme of the Conference. These cover the tectonic setting, stratigraphy, petrology, structure and emplacement; mineralization and mineral deposits; and controls of platinum group element mineralization, respectively. Ten papers cover aspects of the sulphide and platinum group element mineralization in the Madziwa intrusion, Zimbabwe (Birch and Buchanan), the Bushveld complex, South Africa (papers by Merkle and by Hatton), the Molopo Farms complex, Botswana (von Gruenewaldt *et al.*), the Rana Layered Intrusion, Norway (S.-J. Barnes), the Duluth complex, USA (Martineau), the Lac des Iles and the Montcalm complexes, Canada (Macdonald *et al.*; Barrie and Naldrett), and certain mafic and ultramafic intrusions in Finland (Papunen; Alapieti *et al.*). There are three papers which deal with the volcanism of the Archaean komatiite—associated nickel deposits and their host rocks in the Yilgarn Block, Western Australia (by Hill *et al.*, Frost and Groves, and Evans *et al.*). In one very interesting theoretical paper by Naldrett, Lehmann and Augé, the possible effects of non-stoichiometry in spinels on compositions of the sulphides in the chromitites of ophiolite complexes is discussed. The last paper in the volume (by Sander and Cawthorn) discusses the results of a gravity and magnetic survey of the Insizwa intrusion, South Africa, and discuss the implications for exploration.

As might be expected from the origins of this volume, the final contribution of a fairly long term (IGCP Project 161 members first met in 1978) international collaborative programme involving experts in the study of magmatic sulphides, the

science is of high quality. It is also a volume that has been well produced, with clear figures and tables, and in an identical format to that used in the IMM Transactions (A4 page size, double column). There is a very brief (1 page) subject index, and a name index which gives the pages of their articles next to the names of contributors; it also lists the names of all those authors whose work is cited in the text, but referenced to the appearance of that name in a bibliography rather than the actual article.

There is no doubt that the 'Zimbabwe Volume' is an important contribution and essential reading for those with any significant interest in magmatic sulphides, whether as research worker, teacher or exploration geologist. However, it is in effect a special (thematic) issue of the Transactions of the IMM (Earth Sciences Section) and its circulation will be limited largely to libraries by its high price. Competing journals, notably *Economic Geology*, have taken to publishing thematic issues on particular classes of ore deposit and on mineralization in particular geographical areas as part of their normal run. This policy has proved very successful, and whilst not wishing in any way to detract from the clear scientific merits of the 'Zimbabwe Volume', one feels its authors interests (and those of IMM Fellows and Members) might have been better served by the IMM issuing this material as part of the Transactions.

D. J. VAUGHAN

Wellmer, F.-W. *Economic Evaluations in Exploration*. Berlin, Heidelberg and New York (Springer-Verlag), 1989. xiv + 163 pp. Price DM 38.00.

One of the original aims of this book was to provide the exploration geologist with an understanding of the range of evaluation techniques available for the assessment of the potential economic viability of mineral deposits. In this respect, it is highly successful. It is generally very well written and the translation is excellent. Only rarely have continental conventions managed to escape the re-drafting into English, e.g. the use of commas instead of decimal points. The overall approach to mineral economics is very practical and pragmatic and most geologists will, as a result, find