

BOOK REVIEWS

VOLBORTH (A.). *Elemental Analysis in Geochemistry. Part A: Major Elements.* (Methods in Geochemistry and Geophysics no. 8.) Amsterdam, London, and New York (Elsevier), 1969. xv+373 pp., 76 figs., 15 tables. Price 135s.

The aim of this book is to bring the best of the classical analytical techniques within reach of the instrumentalist and also to give the gravimetric chemist an introduction to the simpler instrumental methods for analysing all elements found in major amounts in rocks and minerals. Thus the selection and combination of methods should permit a complete analysis of a complex substance with a maximum of simple double checks by different but compatible methods. The author remarks that disastrous consequences may result from relying solely on instrumental analysis and at the same time neglecting the needs and necessary improvements of the classical analyst's 'corner', if indeed any such space is left for him at all. Instrumentalists tend to forget that to transform the relative counts or intensities that they are measuring into meaningful figures they must use data originating mainly from the classical gravimetric analyst.

After dealing with the preparation of samples and a discussion of factors influencing the selection of methods of analysis, some details are given of methods of extraction and ion exchange separation, followed by details of classical gravimetric, volumetric, and other methods. There are also chapters on flame photometry and atomic absorption spectroscopy. The remaining third of the book is devoted to an account of instrumental non-destructive analysis, X-ray spectrographic analysis, and fast-neutron activation analysis.

The author is obviously aware of the dangers of presenting the subject matter in too terse a form but it would appear that he has not always been successful in giving sufficient details for this to be used as a laboratory textbook. This would not perhaps matter if reference was made to the full description of a particular method, but in fact there does not appear to be a single reference throughout the entire text, merely a 3½-page bibliography at the end of the book. The expressed aim was good but the result leaves the target hardly scarred.

R. A. HOWIE

MAXWELL (JOHN A.). *Rock and Mineral Analysis.* London and New York (Wiley: Interscience), 1968. xvii+584 pp., 14 figs. Price 229s. (\$24.50).

This book is written for the practising rock and mineral analyst and is intended to provide an up-to-date coverage of developments in analytical techniques in the last fifteen to twenty years. The salutary lesson of the results of the co-operative investigation of the G-1 and W-1 samples initiated in analytical laboratories a reappraisal of the methods and techniques then in use. In the last few years new techniques and new reagents have been forthcoming and it is useful to have an evaluation of the various methods now available for determining a particular element in silicate rocks. It may