

FLEISCHER (M.). *1975 Glossary of Mineral Species*. Bowie, Maryland (Min. Record, Inc.), 1975. vi+145 pp. Price \$4.00 (send orders to Glossary of Mineral Species, P.O. Box 10404, Alexandria, Virginia 22310, U.S.A.).

This is a revision of the first edition (1971), incorporating new minerals and new data as of 1 January 1975. Major innovations are the inclusion of the crystal system, the colour when distinctive, and a reference to the first description, to an abstract of the first description, or to a recent significant paper. The main listing remains the chemical formula, with special reference to polymorphs, similar minerals, and group relations. The treatment of mineral groups has been expanded with a listing of the members of 28 groups; more references to discredited species are given. Diacritical marks are not included, except for umlauts. This handy little volume, listing authoritatively some 2800 mineral names together with chemical compositions and recent references, should without doubt be on every mineralogist's desk. R. A. HOWIE

REED (S. J. B.). *Electron Microprobe Analysis*. London, New York, and Melbourne (Cambridge University Press), 1975. xvi+400 pp., 167 figs., 29 tables. Price £12.00.

One man's view on a subject is often preferable to an edited collection of papers and in this book it certainly results in a cohesive approach without overlap and with very good cross references. The title is accurate as the author has not allowed himself to be diverted into discussion of other probe techniques.

As the author states, this work 'emphasises physical principles in relation to the design and operation of the instrument and the interpretation of results' and he has attempted and I believe succeeded in avoiding 'superfluous theoretical detail'. This does not mean that the book ignores practical aspects as it is liberally interspersed with useful experimental details.

After the introductory chapter, nine chapters are devoted to aspects of the design and operation of the instrument, dealing with the specimen stage, light and electron optics, scanning, spectrometers, and counters. Particularly important, because they deal with topics not adequately covered elsewhere, are chapters VIII, IX, and X on counting electronics, solid state detectors, and electronics for solid state detectors. Two minor criticisms in chapter VIII are that in the section on amplifiers insufficient emphasis is placed on the conflicting requirements of low noise and high count-rate performance, and that there should be some discussion of the commonly used delay line amplifiers. In chapter X it is pleasing to see a description of the very high performance Kandiah pulse processing system and of the beam-switching technique.

Chapter XI is devoted to experimental aspects of quantitative analysis and it is followed by five chapters on various aspects of matrix corrections. These are mainly concerned with what might be called a conventional ZAF procedure and its variants but there is some discussion of Transport Equation and Monte Carlo methods. The treatment of the alpha coefficient method of Bence and Albee is rather brief and could be misconstrued as implying limiting experimental conditions. A more detailed treatment would have been useful here, particularly as the majority of published mineralogical analyses have probably used this method.