

BOOK REVIEWS

Anthony, J. W., Bideaux, R. A., Bladh, K. W. and Nichols, M. C. *Handbook of Mineralogy: Volume II: Silica and Silicates*. Tucson (Mineral Data Publishing), 1995 (ISBN 0-9622-0971-6). xvi + 904 pp. Price \$135.00 (+ \$7.50 shipping and handling). Available from P.O.Box 37072, Tucson, Arizona 85740, USA.

This second volume in the proposed five-volume series is bound in two parts, each of 460 pages, and gives critical data on 904 silicates and silica minerals, all the silicate mineral species known and described as of 31 August, 1994. As in the previous volume on *Elements, Sulfides, Sulfosalts* (*Mineral. Mag.*, **55**, 146.) each species is given a one-page description, which includes the name and idealized chemical formula, crystal system, point group, habit, twinning, cleavage, fracture, tenacity, hardness (both Mohs and VHN) and density. The optical properties listed include colour, lustre, optic sign, refractive indices, pleochroism, etc., and the unit cell data given are the space group, cell dimensions, cell contents and the seven strongest lines of the XRD powder pattern. Up to three chemical analyses are quoted, together with empirical formulae and polytypes, and there is a brief statement on the type of geological occurrence, associated minerals and a few prominent localities. Finally the source of the name and up to eight references are listed.

This work is thus an extremely comprehensive data source. The authors plan a complete coverage of the mineral kingdom in five volumes, and this compilation on the silicates alone represents an immense project. At first glance, a reader may be surprised at the one-species-to-a-page approach: e.g. on facing pages we get orthoclase and orthoericssonite, or phlogopite and phosinaite, i.e. the common silicates get no more and no less coverage than relatively rare species. This is not a text to read, but rather an extremely valuable compilation of the fundamental data and sufficient references to allow further investigation. With the number of species covered, division into two separately bound parts was clearly sensible, but having checked on a particular species one is always finding that the related species one wants to look up is in the other part.

My one serious criticism is that there is no index. At first sight, since the work is arranged alphabetically from abschwabachite to zussmanite, this might not seem necessary but one needs to know that it is no

good looking for tourmaline or garnet — one must look up the individual species such as elbaite or grossular, though hydrogrossular is mentioned only under hibschite, and while schorlomite has an entry melanite does not. It seems a pity that melilite is not covered, åkermanite and gehlenite being dealt with, but not the commoner intermediate member of the series.

In this format, there is, of course, no room for diagrams or illustrations, but as an auxiliary aid a diagrammatic classification of the amphiboles is included at the beginning of Part 1, in an attempt to clarify the 'labyrinthine' nomenclature of this complex group.

This volume covers some 900 silicate species, whereas less than 300 were described in the sixth edition of *Dana's System* (published in 1892 with later appendices up to 1915), so this outstanding compilation will be widely welcomed. The typography is clear, the data are up-to-date and there appear to be almost no errors. The authors are to be congratulated on getting their teeth into what must surely be the largest of their projected five volumes. When this series is complete (and a promise is made to keep all volumes in print until the fifth and last has appeared), it will surely be an indispensable work for all mineralogists to have available. The price is very reasonable for the size and for the standard of the production and this should help to make it available in all earth science libraries and on the personal shelves of working mineralogists. It is a data set or reference work rather than a text, but the authors have chosen a worthwhile way of producing an authoritative modern version which could well replace Dana's great work.

R. A. HOWIE

Parsons, I., Ed. *Feldspars and Their Reactions*. Dordrecht, Boston and London (Kluwer Academic Publishers), 1994. xxx + 650 pp. Price Dfl 390, £145, \$223. ISBN 0 7923 2722 5.

This is the fourth of the NATO-sponsored volumes on feldspars, being the proceedings of the Advanced Study Institute held in Edinburgh in 1993. It consists of 15 invited chapters by authorities in their individual fields. Unlike the three previous proceedings, which were largely concerned with intracrystalline reactions, this volume also deals at length with reactions between feldspars and between feldspars