BOOK REVIEWS

Clark, A. M., *Hey's Mineral Index: Mineral Species, Varieties and Synonyms.* London (Chapman and Hall and The Natural History Museum), 1993, x + 852 pp. Price £50.00.

Here it is at last: the long-awaited third edition of a book which originally appeared in 1950. Since then advances in technology have contributed greatly to the regular discovery of new minerals, the number of accepted species now being around 3500. Other popular listings such as Fleischer's *Glossary of Mineral Species* or the *Mineral Reference Manual* by Nickel and Nichols already provide lists of accepted species but the great strength and importance of *Hey's Mineral Index* lies in its exhaustive listing of synonyms and varietal names, together with an authoritative commentary.

There are two main changes since the previous editions. One is in the considerable expansion of the alphabetical listing of mineral names, now occupying 782 pages; this section is now placed first. If the mineral belongs to a broader group of related minerals, the name adopted for the group is given after the formula. Reference is made to the original description, where known, of the named mineral; where earlier descriptions of the same material, but without the current name, are available, these are also given. For old names and many synonyms, reference is made to the earliest citation seen. If the spelling originally used for the mineral name differs from that currently used, the original version is shown in parentheses after the reference; cyrillic characters are given for the mineral originally described in Russian. To distinguish betwen polymorphic mineral forms, the crystal system, unit cell dimensions and formula unit contents (Z) are given; where the unit cell data are from the *Powder Diffraction File*, the relevant file number is quoted. The type locality is then given, followed by the origin of the mineral name and by any chemical redefinitions of the species. Each entry concludes, where appropriate, with a list of synonyms applied to the species and a list of names with a varietal status, which may include habit, colour or chemical varieties. I have outlined this arrangement within the alphabetical listing in some detail as it is here, in my view, that the strength and usefulness of this work mainly lies.

The section on chemical classification is much reduced in this new edition and is restricted to the recognised species. The groups used are generally the same as in the previous editions but within each category a complete rearrangement has taken place to incorporate the many hundreds of new species described in recent years. The extensive cross-referencing of chemical constituents in the two earlier editions has now been dropped to save space. A further departure from previous editions is that the pronunciation guide is no longer included.

The second main change readers will immediately note lies in the great increase in size—and weight. The page size is approximately twice that of the previous editions and the thickness (852 pages) is also much greater. This overall expansion may mean that the book is less easily shelved or stored close at hand than the earlier versions; it is essentially a book not just for the library but should be conveniently available for the personal use of all mineralogists and petrologists.

The expansion and rearrangement of the alphabetical index section will be widely welcomed and the inclusion therein of the unit cell data is an additional bonus. This volume is indeed a gem; it turns the scales at some 9500 carats, however, and tends to be a trifle unwieldy. The price for once is eminently sensibile for a book that will be in continuing demand.

R. A. Howie

Price, G. D. and Ross, N. L. (eds.) *The Stability of Minerals.* The Mineralogical Society Series Vol. 3 (Chapman and Hall), 1993. x + 368 pp. Price £75.00.

The latest addition to the Mineralogical Society Series is rather optimistic in its scope, professing to address the 'fundamental factors that underlie our understanding of all aspects of mineral behaviour and crystal chemistry'. This would require a somewhat more elaborate treatment than is presented here (a collection of nine chapters by different authors, focusing on specific areas of mineral energetics) but nevertheless, the book is interesting and informative. The chapters are based on papers presented at the Mineralogical Society's 1989 Winter Conference at University College, London. The long gestation period is