literature are promised in the full locality index in volume 2. The language should prove no real barrier: thus under the locality Hnúšta-Likier one is given a mineral list for the hornfels—'aktinolit, cordierit, epidot, flogopit, granáty'—and, for example—the latter is followed by 'ideoblasty az 1 cm vel'ke [2674] (2674 = the reference number). Identifikované opticky *n* 1.803, promocou RTG (explained as = XRD in the abbreviation list) *a* 11.52 Å [927] a CHA (= wet chemical analysis) ako almandín. CHA: SiO_2 37.74, Al_2O_3 17.47, etc. . . *D* 4.15 [927]'.

The book contains an immense amount of data and the two-volume set (when Vol. 2 becomes available) should be in all Earth Science libraries.

R. A. HOWIE

Trewin, N. H., Kneller, B. C., and Gillen, C. eds *Excursion Guide to the Geology of the Aberdeen Area.* Edinburgh (Scottish Academic Press), 1987. x + 296 pp., 18 photos, 40 maps. Price £8.75.

This book, produced by the Geological Society of Aberdeen, provides an account of the geological history of northeast Scotland. The 24 excursions illustrate the great variety of geological features to be seen in the area. Topics and localities covered include the classic areas of the Barrovian metamorphic zones in the Dalradian of Glen Esk, Buchan-type metamorphic zones near Banff, the Huntly layered igneous intrusion, the Insch 'Younger Basic' igneous mass and the 'Newer Granite' of Bennachie, and the chloritoid-bearing assemblages and structures in the folded Dalradian rocks north of Stonehaven.

Each excursion is based on a series of numbered localities and accompanied by sketch maps. There are clear instructions as to access, parking spots, and time needed to visit the various outcrops. The book starts with a 50-page summary of the geology of the area and concludes with some 220 references. It is well produced, with numerous diagrams as well as locality maps, and available at an eminently sensible price.

R. A. HOWIE

Smith, D. K., McCarthy, G. J., Bayliss, P., and Fitzpatrick, Joan. *PDF Mineral File Workbook: Use of the X-ray Powder Diffraction File of Minerals.* JCPDS International Centre for Diffraction Data. Swarthmore, PA, U.S.A. 1986. pp. v + 170. Price $10.00.

The powder X-ray diffraction method is very widely used for identifying the mineral constituents of rocks and other materials. This publication is concerned not with the X-ray technique but with the methodology for interpreting the data. It gives seven worked examples of the use of the Mineral File as follows: 1. Comparison of the search methods of the Hanawalt and Fink Indexes. 2. Illustration of the difficulties encountered with solid solutions. 3. Determining composition and structural state of feldspars. 4. The identification of polymorphs. 5. Clay minerals. 6. Quantitative analysis. 7. Comparison of manual and computer search methods for multi-mineral mixtures.

The workbook is self-contained, reproducing all the necessary extracts from the various data books and manuals (the publishers permit copy making for student use). It is undoubtedly a valuable teaching aid for undergraduate courses, postgraduate students, technical assistants and other users or potential users of the Mineral File.

J. ZUSSMAN

Sears, D. W. G. *Thunderstones: a study of meteorites based on falls and finds in Arkansas.* Fayetteville and London (University of Arkansas Press), 1988. xii + 98 pp., 30 figs., 8 tables. Price £6.80.

In this paperback, meteorites recovered from Arkansas, USA, are described and used to illustrate a variety of meteorite compositions and structures. The meteorites comprise six falls and seven finds, including five stones, seven irons and one stony-iron. Meteorite types not represented in Arkansas are briefly discussed. Although written at a popular level, this book is also scientifically authoritative and includes brief insights into current research aimed at understanding the history of meteorites. Numerous references are given as footnotes to the text. The final chapter discusses the possible origins of meteorites. The book ends with a page of references to books for further reading and is a good, if limited, introduction to meteorites in general. It should be useful and instructive to the non-specialist as any specific terms used are well explained. This book should not be confused with another on meteorites with a similar title: Thunderstones and shooting stars, By R. T. Dodd.

A. L. GRAHAM

Boscardini, M., and Sovilla, S. *Il giacimento mineralogico di S. Pietro in Montecchio Maggiore (Vicenza).* Montecchio Maggiore (Museo Civico 'G. Zannato'), 1988. 93 pp, 37 figs., 45 colour photos.

A local development of amygdaloidal basalt, basaltic tuffs and explosion breccias which overlie the Tertiary sediments in this area of northern Italy contains relatively abundant zeolites. This nicely produced publication describes and illustrates each species, together with morphological drawings and some infra-red spectra. The commoner species are analcime, natrolite, apophyllite, calcite, celadonite and smectite, while gmelinite, heulandite, thomsonite and celestine are less common, and chabazite, erionite, stilbite, phillipsite and levyne are rare.

R. A. HOWIE

Gribble, C. D. *Rutley's Elements of Mineralogy*, 27th Edition. London (Unwin Hyman), 1988. xiv + 482 pp. Price £12.95 (paper); £38.00 (hardback).

This thoroughly revised edition encompasses a number of changes from the previous edition of 1965. The silicates are now described in a separate chapter, using crystal-chemical subdivisions, and the non-silicates are treated under the Dana system of classification. In line with the traditional use of this text among students of applied and mining geology, emphasis is placed on the principal elements of economic importance and the minerals associated with each element; the world production totals, and uses, of each element are also included. The section on optical mineralogy has been completely revised, and optical and physical data now feature in every mineral description (cristobalite is rendered as crystobalite throughout). The information on blowpipe analysis has been retained but relegated to an appendix, though the small paragraph on such tests for individual minerals has been included where appropriate.

The author has clearly succeeded in retaining much of the 'flavour' of *Rutley*. Many of the old miners terms are retained as alternative names, e.g. mundic, black jack, capillary pyrites, spartalite, glance, etc. and form a useful cross-reference.

R. A. HOWIE