

WEDEPOHL (K. H.), editor. *Handbook of geochemistry*, volume II/4. Berlin, Heidelberg, and New York (Springer-Verlag), 1974. vi+898 pp., 113 figs., Loose-leaf binder; Price DM 298, U.S. \$122.20 (subscription price DM 238.40, U.S. \$97.80). This monumental compilation of geochemical data nears completion. With the present instalment, in the familiar grey loose-leaf binder, the chapters on the following elements are now complete: B, C, N, O, F, Mg, Si, Cl, V, Fe, Co, Zn, Ga, Se, Br, Ag, Sb, Te, I, Ba, W, Au, Tl, Pb; while the following are complete save for occasional sections: Li, Be, Na, K, Sc, Ge, As, Rb, Yt, Ru-Pd, Cd, In, Sn, Cs, La-Lu, Re, Os-Pt, Hg, Bi, Th, U.

This latest instalment follows the same plan as its predecessors (*Min. Mag.* 38, 116-18; 533-4; 39, 618-19) and contains most of the material for B, Halogens, V, Cu, Ag, Au, and Pb, as well as individual sections and some replacement sheets for twenty-two others. In the cases of H, Noble Gases, P, S, Ca, Ti, Cr, Mn, Co, Ni, Sr, Zr, Nb, Mo, Hf, and Ta little or nothing is yet available except the introductory Section A on Crystal Chemistry, while major gaps remain to be filled in the treatment of Al. It is to be hoped that one more instalment will see the completion of the enterprise.

As regards the quality of the work, little can usefully be added to reviews of previous instalments; as publication progresses, the user perhaps becomes less aware of unevenness of treatment of the various elements in the euphoric state induced by having such a wealth of detailed information accessible in such a convenient form. Of course, the purchaser must be prepared, on the receipt of each new instalment, to rearrange the contents of the (now) four loose-leaf binders, following the 'Notice to Users' placed at the front. The presentation is clear, with excellent typography and diagrams, and commendably few obvious printer's errors. The Handbook is much used in libraries and laboratories; its price precludes it from finding a place, as it should, in the working collection of every researching geochemist.

It is now five years since the 'systematic' part of the Handbook began to appear; keeping it up to date will be a considerable problem. E. A. VINCENT

HERRMANN (A. G.). *Praktikum der Gesteinsanalyse*. Berlin, Heidelberg, and New York (Springer-Verlag), 1975. vii+204 pp., 20 figs., 24 tables. Price DM 29.80 (\$12.90).

This workmanlike volume, bound in durable soft cloth covers, is designed as a laboratory guide to practical rock analysis. Claiming neither to be a comprehensive text nor a 'cook book' it is in fact nearer to the latter, having grown out of laboratory manuscripts developed for use in the analytical laboratories of the Geochemical Institute at Göttingen. Aimed particularly at beginners in the subject, the German-reading student will find it a useful guide to the available methods for determining the major constituents in rocks and minerals by chemical and instrumental procedures depending upon decomposition and solution of the sample; purely physical methods such as optical emission and X-ray spectrography and microprobe analysis are not discussed.

The book includes an introductory section covering such topics as sampling and

sample preparation, the statistical assessment of errors, and the preparation and storage of solutions. A series of useful tables summarizes the methods available for the determination of each major constituent. A very useful section summarizes sample decomposition methods and is followed by sections (pp. 76–183) dealing individually with each constituent, rounded off by brief appendices on the care of platinum and glass apparatus, and safety and first-aid in the laboratory.

Like virtually all books on geochemical analysis, this one outlines some procedures for which the author has a particular predilection and omits some more familiar in other laboratories. The author himself stresses that it should be used in conjunction with fuller texts such as that of J. A. Maxwell, and so used it is much to be commended.

E. A. VINCENT

SAGGERSON (E. P.). *Identification tables for minerals in thin sections*. London and New York (Longman), 1975. x+378 pp. Price £3.75 (U.K.).

This book supplies a set of determinative tables for optical mineralogy based on the data in the standard work *Rock-forming Minerals* by Deer, Howie, and Zussman. The author and publishers are to be congratulated on the idea of adding this search facility to the original work. The format of the book and the clarity of the tables are both good, and the result should prove useful.

Table 1 places the minerals in colour groups, then in sub-groups by optical character and sign, and within these sub-groups in order of increasing birefringence. Table 2 uses the same groups and sub-groups, the order within the latter being now that of increasing refractive index. Tables 3 to 11 group the minerals by crystal structure (amphibole group, feldspar group, etc.).

Throughout, birefringence is expressed on a scale of 1 to 5 and refractive index on an eight-step scale denoted by letters (–M, –L, N, +L+M, etc.). The limits of these steps have to be memorized. It would have been better to enter the numerical values of the parameters concerned in the tables. It is a pity that relief and birefringence were not given precedence over optical character and sign in the subdivision of Tables 1 and 2, as these criteria are readily assessed in most cases, whereas an interference figure yielding an unequivocal sign may be hard to find where grains are few, especially for students. Once the mineral is located the tables give 2V, dispersion, extinction, orientation, crystal system, habit, cleavage, twinning, zoning, alteration, and occurrence.

An unfortunate error is the constant use of isometric as a description of optical character where *isotropic is meant*. This will confuse students.

Though avowedly designed for student use, the book contains data on a host of minerals the student will never encounter, and one would hardly expect him to buy it. It will, however, in spite of the criticisms, be a useful adjunct to teaching and the student could reasonably expect to find a copy available to him in any well-equipped petrology laboratory.

M. H. BATTEY