

## BOOK REVIEWS

SPECTROCHEMICAL ANALYSIS, 2nd Edition, L. H. AHRENS AND S. R. TAYLOR. Addison-Wesley Publishing Company, Reading, Mass., and London, England. 454 +xxiii pages. \$15.00.

SPECTROCHEMICAL ANALYSIS by Ahrens and Taylor is well known to workers in the spectrochemical analysis of rocks, minerals, and related substances. The general coverage of the work is the same as that of the first edition with particular emphasis on newer techniques in quantitative determination of major constituents, the development of general sensitive methods for determining many elements in a single operation, and the use of enrichment techniques to extend greatly detection limits of many elements.

The entire treatment is based upon the D.C. arc source, an approach fully justified in the results obtained. A table of most sensitive lines of the elements with interfering lines is given. General principles and techniques as well as specific discussions of each of the detectable elements and a choice of internal standards are given. Important band spectra are covered in addition to the spectra of the usable elements. Forty-five pages of bibliography are included.

The book has already earned its place as an important reference and will certainly continue to maintain this position among students and research workers.

REYNOLDS M. DENNING  
*Department of Geology and Mineralogy  
University of Michigan*

THE INTERPRETATION OF X-RAY DIFFRACTION PHOTOGRAPHS, by N. M. F. HENRY, H. LIPSON, AND W. A. WOOSTER. Macmillan and Co., Inc., London. (St. Martin's Press, New York); 2nd Edition, 1960, X+282 pages, price \$12.00.

A review of the first edition of this book was given in *Am. Mineral.*, **37**, 1952. In the second edition (1960), the authors have attempted to expand certain sections, particularly the one on the precession method, and change the use of kX to angstrom units to conform with international nomenclature.

The book consists of 17 chapters, followed by 9 appendices, and 13 tables. Titles of chapters include Crystal Lattices and Symmetry Classes, Nature of  $x$ -rays, Geometry of  $x$ -rays Reflections, and Single Crystal and Fibre Photographs. Following these chapters are interpretations of the various methods, namely, oscillation photographs (22 pages), Laue method (10 pages), moving film methods (20 pages) which include Weissenberg and rotation-retigraph methods, precession method (27 pages), and powder photograph method and interpretation (43 pages). The authors also discuss orientation in single crystals and twins, and preferred orientation in polycrystalline aggregates, with examples of calculations for two triclinic crystals and one trigonal crystal.

Space groups are only briefly mentioned, although adequate references are given for further investigation. More emphasis is given to the powder method than to the more difficult single crystal Weissenberg photographic interpretations so widely used at present.

In conclusion, the book is of great value to the student who carries out calculations in interpretation of  $x$ -ray diffraction photographs and to the researcher who needs a review of the methods.

EUGENE B. GROSS  
*Department of Geology and Mineralogy  
The University of Michigan*