

unduly upset about the omission of doubtful species like 'karinthine', 'barroisite', etc. The book contains an Appendix giving the method for calculating the chemical/structural formula of minerals and a table of molecular weights for use in such calculations.

The sensibly priced paperback edition will add to the popularity of the book, which should find acceptance as a standard students' text.

T. W. B.

ADLER (I.). *X-ray Emission Spectrography in Geology (Methods in Geochemistry and Geophysics, 4)*. Amsterdam (Elsevier), 1966. xii+258 pp., 82 figs, 4 pls. Price: 90s.

The author includes under his title both X-ray fluorescent analysis and electron microprobe analysis. Both techniques are proving of immense value to geologists with a variety of interests.

The generation of X-rays and their properties are adequately and clearly discussed in general terms in Chapter 2. This is followed in Chapters 3 and 4 with more detail, still clearly and simply expressed for the non-physicist, on the conditions necessary for the excitation of any particular X-radiation and on the properties of the various detection devices available. Chapter 5 deals specifically with the dispersion of X-rays, including collimation, the reflectivity and resolution of the various analysing crystals and the ranges over which they are most effective in commercial spectrometers. One of the many assets of X-ray fluorescent analysis is its adaptability to meet the needs of a particular type of analysis and get the optimum results. To make full use of this adaptability it is essential to know which collimator or counter or crystal is most suitable. Dr. Adler explains the range and value of each such variable with excellent clarity.

Qualitative, semi-quantitative, and quantitative analysis of rock and mineral samples is discussed in Chapters 6 and 7 and a number of case analyses are quoted in detail from the literature. Matrix effects, including particle size effects and the absorption and enhancement effects, an understanding of which is vital to accurate quantitative analysis, are discussed only briefly. The problems these raise are of particular importance to the geologist and a much fuller description of the various methods of sample preparation in use and a discussion of their relative merits would have been appropriate and timely. Nor would worked examples for correction of the absorption effect, including tables of various constants, have been out of place.

The last four chapters are devoted to electron microprobe analysis.

This is a huge subject, but the broad principles of the technique, the instrumentation, and the analytical procedures followed and corrections made are clearly outlined, again with examples quoted from the literature.

The book is designed for geologists entering a new and unfamiliar field. In this it succeeds with admirable clarity. Most geologists already engaged in X-ray analysis, however, still await a more detailed discussion of the technique and the rather special problems with which the geologist must contend.

P. R. HOOPER

KRUŽA (TOMÁŠ). *Moravské nerosty a jejich literatura 1940–1965*. [The minerals of Moravia and their literature 1940–1965.] Brno, Moravian Museum, 1966, 378 pp., 30 plates, 6 maps. Price not given.

This book is a detailed inventory of the minerals and mineral localities of Moravia, incorporating in particular many discoveries made during the last 25 years, a period in which intensive search for deposits of economic importance has been carried out. The introduction is printed in Czech, Russian, English (pp. 8–10), German, and French. The remainder of the book is mainly in Czech, although to a non-Czech reader the lists are generally easy to follow. Short biographies of many earlier workers on Moravian minerals are followed by a complete bibliography for the period 1940–1965, bringing up to date the compilation published by E. Burkart in 1942.

In the longest section of the book (pp. 43–298) a detailed list of localities, in alphabetical order, is given, with the minerals found at each and brief notes on them. For cross reference, a list of minerals, with the places at which each is found, is also given. Finally, abandoned and working mines are briefly listed.

A valuable feature of the book is an appendix of 60 photographs, most of them illustrating localities of mineralogical interest. The captions are printed only in Czech, and the value of the photographs would have been enhanced for the general reader outside Czechoslovakia if supplementary notes on the photographs had been added in one or more other languages.

Although of more interest to mineralogists living in Czechoslovakia, the work is a very detailed and valuable source of information on a region famous for its minerals, in particular those from pegmatites and serpentinites. In addition, it will undoubtedly be of much interest to mineralogists in other countries in view of the forthcoming meeting of the International Geological Congress in Czechoslovakia in 1968.

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