

is an edited version of the lectures that he gave there. The scope of the book is well described by the title, a trace element being defined as one having a concentration lower than 0.1 %.

The book is divided into three parts, the first dealing with sampling, analysis, and the statistical significance of numerical composition values. The second part deals with the interpretation of the distribution of elements, and it is here that the crystallographic interest of the book lies: two chapters are devoted to isotypic replacement. The third, rather short, part is devoted to geological applications, including an argument for the organic origin of graphite.

The bibliography amounts to nine pages, and the index to six. The main fields of interest are geochemistry, prospecting, and pedology.

An illustrated elementary classification of minerals, rocks and fossils. BY H. C. CURWEN. Pp. xii + 185. Oxford: Pergamon Press, 1965. Price 42 s.

This may best be described as an extensively annotated picture book. The sections are headed: The chief rock-forming minerals, Some rock types, Some general geological features illustrated, The chief minerals of the more important elements, and Some notes on fossils. It ends with a short glossary and an index. With a few exceptions, the pictures are of good quality. Some of them contain objects, such as a geological hammer or a human figure, from which the scale can be judged, but often this is left quite undetermined.

Though the dust cover claims that the book will prove invaluable for use in universities, the standard seems more appropriate for schools.

Atlas der Zuckerkristalle – Atlas of Sugar Crystals.

BY G. VAVRINECZ. Pp. 55, 152 Figures. Berlin: Verlag Dr Albert Bartens, 1965. Price: DM 23.60.

This small handbook presents drawings of some 145 morphologies exhibited by sucrose crystals; of these, 100 represent untwinned habits. Each drawing is referenced to the origin of the sucrose. The habits are also tabulated in terms of the bounding forms.

The drawings are accompanied by an elementary treatment of crystals and morphology, written in German and, in parallel columns, in poor but comprehensible English.

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Introduction a l'emploi de rayonnements en chimie physique. Tome 1. Cheminement des particules chargées. BY Y. CAUCHOIS and Y. HENO. Pp. 274. Gauthier-Villars, 1964. Price 52 F.

The authors propose to publish three volumes on the use of radiation for studying the structure of matter and for producing chemical or physical effects by irradiation. This first volume deals with the loss of energy by collision and radiation. Among the topics are elastic collision, inelastic collision, Čerenkov radiation, *Bremsstrahlung*, back scattering, and straggling. The treatment is almost entirely theoretical, and there are no crystallographic applications.

Optical methods of investigating solid bodies. Edited by D. V. SKOBEL'TSYN. Translation of Volume 25 of the Proceedings of the P. N. Lebedev Physics Institute. Pp. vi + 188. New York: Consultants Bureau, 1965. Price \$ 22.50.

This book contains three papers. The first and longest (123 pages) is by N. D. Zhevandrov on 'Polarized luminescence of molecular crystals'. The second (47 pages) is by V. P. Cheremisinov, on 'Vibrational spectra and structure of certain oxides in the crystalline and glassy states'. Comparison of the vibrational spectra of crystalline and vitreous forms of oxides of antimony, arsenic, *etc.* gives some indication of their symmetry and structure. The final section (10 pages) is a mathematical 'Calculation of cross sections for excitation of atoms and ions by electron impact' by L. A. Vainshtein.

High-temperature compounds of rare earth metals with nonmetals. BY G. V. SAMSONOV. Pp. xiv + 280. New York: Consultants Bureau, 1965. Price \$ 17.50.

The Russian original of this book was published in Moscow in 1964, and it is in some sense supplementary to a previous book by the same author, reviewed in *Acta Cryst.* **18**, 140 (1965). The present book contains five chapters, dealing respectively with the borides, carbides, nitrides, silicides, and sulphides of the rare-earth metals. Each chapter is divided into four sections: a short summary of the structure and properties of the compounds; methods of preparation; a more detailed discussion of individual compounds; and finally a very brief outline of their uses. (The final section is omitted in the nitride chapter.) Each chapter ends with a list of references, arranged in the order of citation.

The book is reproduced photographically from unjustified typescript. Its value as a work of reference is lessened by the entire absence of indexes.