crystal growth (general summary of growth processes, morphology and growth spirals; synthesis of large crystals of silicates and titanates; synthesis of Ni_2SiO_4 spinel and black phosphorus up to 4 GPa; defects in natural and synthetic olivines); *electron theory of transition-metal compounds at high pressure; crystallography at high temperature* (olivines, spinels) *and high pressure* (coesite, stishovite, KCl, PbO_2); *electron microscopy of microtextures in minerals* (pyroxene, plagioclase feldspar, kelyphitic breakdown rims around garnet); *properties of olivine* (oxygen self-diffusion and creep); *properties of diamond* (morphology; surface topography; nucleation of single crystals); *shock-induced phase transitions* (feldspar, olivine, ilmenite); *techniques* (multi-anvil presses above 10 GPa; compression guns; high-temperature X-ray diffractometry up to 2800 K, and application to cristobalite). This book, based largely on material published in scientific journals and books, demonstrates the increasing drive and variety of the research programs in crystallography (*sensu lato*) in Japan. The substantial price will essentially establish which libraries will buy the book. In general, the book is nicely printed. Some articles are in excellent English, but others were not fully translated from Japanese.

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Structural inorganic chemistry. By A. F. WELLS. Pp. xxxi+1382. Oxford: Clarendon Press, 1984. Price £75.00.

The fifth edition of this well known book by A. F. Wells will be welcomed by all those teaching inorganic chemistry.

In fact, it is unquestioned that an adequate understanding of molecular and crystal structures is fundamental in chemistry, and particularly in inorganic chemistry. On the other hand, it is from the study of the solid state that we acquire those basic geometrical and topological concepts that allow us to understand and describe in a simple way the structures of compounds, even of those with quite complicated chemical formulae. Therefore, from a didactic point of view, it is very convenient, for students as well as for teachers, to find in the same volume, besides a systematic description of the structural chemistry of elements and their compounds, a clear exposition of general topics concerning the structures of solids.

The goal of this text is to offer a reasonable balance of material between introductory concepts and detailed structural information.

The book is divided into two parts. Part I (Chapters 1-7, 325 pp.) deals with some basic aspects of solid-state structures, such as lattices, symmetry, coordination polyhedra, plane and three-dimensional nets with related structures, sphere packings and close-packed structures. Chapter 5 shows examples of the description of structures as assemblies of tetrahedral and octahedral coordination polyhedra. Chapter 6 gives a thorough discussion of simple AX_n structures. All the crystallographic concepts are described in terms directly intelligible by chemists, which constitutes another merit of this book. Each chapter contains tables with many examples of structures based on the particular type of net or polyhedron under discussion. The last chapter gives a brief description of the structural aspects of bonds in molecules and crystals.

Part II (Chapters 8-29, 983 pp.), the major one, provides a survey of structural data for elements, arranged according to the groups of the Periodic Table.

The detailed description of the structural chemistry of elements, from hydrogen to actinides, makes this second half of the book uniquely useful, not only to teachers or students but also to research workers. In fact, numerous citations of relevant literature, generally referring to the latest work, are given in an abbreviated form and may constitute a good starting point for further information.

The last chapter deals with the structure of metals and alloys.

Relevant structural data, such as bond lengths and angles, coordination geometry, *etc.*, are collected in tables, useful for reference work. There are a formula index and a subject index that, together with the detailed list of contents, allow a ready location of each topic or compound.

As appropriate in a book of this sort there are a great many figures, sketches and diagrams, always presented in a pleasant and clear form.

For the clear and concise exposition of such a wide variety of material this is a book to be highly recommended. The only defect is its daunting price.

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Books Received

The following books have been received by the Editor. Brief and generally uncritical notices are given of works of marginal crystallographic interest; occasionally a book of fundamental interest is included under this heading because of difficulty in finding a suitable reviewer without great delay.

Densities of aqueous solutions of inorganic substances. By O. SÖHNEL and P. NOVOTNÝ. Pp. 335. New York, Amsterdam: Elsevier, 1985. Price Dfl 175.00, US $67.25.

Современная кристаллография. (Contemporary crystallography.) Vol. 4. Physical properties of crystals. (In Russian.) By L. A. SCHUVALOV, A. A. URUSOVSKAJA, I. S. ZEŁUDJEV, A. V. ZALESSKIJ, S. A. SEMILIETOV, B. N. GRECZUSZNIKOV, I. G. CZISTIAKOV and C. A. PIKIN. Pp. 484. Moscow: Nauka, 1981. Price 4r 80k. A review of this book, by J. Auleytner, has been published in the January 1985 issue of *Acta Crystallographica*, Section A, pages 111-112.

Structure of crystalline polymers. Edited by I. H. HALL. Pp. 313. London: Elsevier Applied Science Publishers, 1984. Price £35.00. A review of this book, by Eric Siu-Wai Kong, has been published in the February 1985 issue of *Journal of Applied Crystallography*, pages 53-54.