

happens when impurity atoms are present. There is also no mention of the cluster theories which are also used to describe optical, electronic and magnetic properties. Theory is curiously divorced from experiment, with an almost blind reliance on computer simulation. Despite this, there are interesting sections, and the treatment of percolation is worth reading. The book is probably not worthy of inclusion in a private collection, but it is worth looking up in the library.

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Guidelines for editors of scientific and technical journals. By H. GRÜNEWALD. Pp. [iv] + 36. Paris: Unesco, 1979. Distributed without charge to serious enquirers by General Information Programme, Unesco, reference GI-79/WS/8.

The *Guidelines* grew out of courses in scientific editing sponsored by Unesco in Indonesia, The Philippines, and Nigeria. Dr Grünwald is the editor of an important German chemistry periodical, and his lecture notes have been considerably amplified and clarified as a result of the discussions and questions that arose during the courses.

The *Guidelines* would be found to be very useful by any first-time editor, since they begin with an explanation of the types of journal, the roles of the sponsoring organization, the editor, the advisory board, referees, the printer and the publisher, and go on with hints on office management. There is much good advice on the information content of titles, the treatment of authors' names, the adequacy of abstracts, arrangement of tables and mathematics, handling of footnotes, citations, handling of galleys and page proofs and even the design of covers. In general the advice given does not conflict with the style of the journals of the IUCr; the two obvious points of difference are authors' names (it is advised to give the first name in full, to aid abstracting journals) and the style of references (superscript numerals are preferred to name and date).

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Neutron interferometry. Edited by U. BONSE and H. RAUCH. Pp x + 488. Oxford: Clarendon Press, 1979. Price £20.00.

This book is a collection of thirty-four papers which originated from an international workshop on neutron interferometry, held at the Institut Laue-Langevin, Grenoble in mid-1978. The editors have grouped them under three

headings: *Methods and instrumentation, Applications and Related techniques of interferometry.* A short index is provided and literature references up to mid-1979 have been included.

Most of the instrumental papers concern crystal diffraction interferometers of the type first developed by Marton for electrons and subsequently adapted for X-rays. The current state of the neutron instruments is fully described and their development discussed. Neutron interferometry has made rather diverse contributions to physics: the nuclear, magnetic and gravitational interactions of the neutron with its surroundings have all been exploited in a variety of studies. The main applications have been in the precise measurement of coherent nuclear scattering lengths, in phase topography with particular emphasis on magnetic domains, in the use of polarized neutron beams, the observation of the gravitational quantum interference of the neutron and the influence of the earth's rotation on the neutron phase. The final section of eight papers includes articles on X-ray, electron and optical interferometry.

Neutron interferometry is a relatively new field and this book is definitely for the specialist. In their preface, the editors state that the workshop included eleven guide-line papers, the remainder being contributed. This distinction is not preserved in the book and it is not easy for the reader to get an overall impression of the subject before delving into even more esoteric detail; I would have been happier if the editors had unified and expanded their individual contributions, which would then have served as an excellent introduction. It is also regrettable that the conclusions reached at a panel discussion on future trends are not recorded.

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Современная Кристаллография Том Первый. Б. К. ВАЙНШТЕЙН. (*Contemporary crystallography. Volume 1. Symmetry of Crystals, Methods of structure crystallography.* By B. K. VAINSHTEIN.) Pp. iv + 383. Moscow: Nauka, 1979. Price 2r 80k.

This first volume of *Contemporary Crystallography* is devoted to the general characterization of crystalline substances, to the basis of classical and generalized symmetry theory and to the methods for structure investigation.

The author tries to describe, in the simplest language, the manner of development of crystallography and its significance for progress in other disciplines.

The first chapter contains macroscopic characterization of crystals and describes microstructure of various materials, including substances characterized by short-range order.

The second chapter is devoted to the concept of symmetry, the theoretical basis of symmetry groups and

their properties, to point and space symmetry and to generalized symmetry.

In the third chapter the author discusses the problems of the crystal polyhedron and crystal-lattice geometry.

The fourth chapter is devoted to the basis of diffraction theory, to scattering phenomena in the case of mono-crystalline materials and to the experimental methods for structure analysis. In the same chapter the author describes electron and neutron diffraction techniques and their role in structure research. A small section of this chapter is devoted to the Mössbauer method and the nuclear particle channelling technique. Transmission electron microscopy and scanning electron microscopy are the subject of the last section of this chapter. The role of three-dimensional reconstruction is discussed with particular attention.

According to the author the book is addressed to scientific workers of many disciplines – such as crystallography, physics, chemistry, mineralogy and material engineering. This first volume will be a very good guide-book for the above-mentioned groups of readers interested in choosing methods for solving various crystallographic problems and those from other natural-science disciplines. This book will be good for the popularization of classical methods of structure investigation, including methods developed in recent years. However, in this volume the reader cannot find any description of such modern methods as EXAFS or defect identification by simulation techniques. A supplement of this volume could have given a more extended bibliography including the very interesting work published in the last few years. Perhaps, such a list of bibliography will be included in the next volume. Well-chosen illustrations are among the most visible advantages of this book.

To sum up, this book will be not only an encyclopaedic source of knowledge but it will also show new trends of development in modern crystallography.

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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.

The solid–liquid interface. By D. P. WOODRUFF. Pp. viii + 182. Cambridge Univ. Press, 1980. Price (paperback) £4.50. This is the paperback version of the hardback which was published in 1973.

Textures of liquid crystals. By D. DEMUS and L. RICHTER. Pp. 228. Weinheim: Verlag Chemie, 1978. Price DM 185.00. A review of this book, by J. E. Lydon, has been published in the September issue of *Acta Crystallographica*, Section B, pages 2193–2194.

Advances in structure research by diffraction methods. Vol. 7. Unconventional electron microscopy for molecular structure determination. Edited by W. HOPPE and R. MASON. Pp. 225. Braunschweig/Wiesbaden: Friedr. Vieweg & Sohn, 1979. Price DM 84.00. A review of this book, by B. K. Vainshtein, has been published in the October issue of *Acta Crystallographica*, Section B, page 2509.

Engineering physical metallurgy and heat treatment. By YU. LAKHTIN, translated from Russian by N. WEINSTEIN. Pp. 424. Moscow: MIR, 1980. Price £5.95. A review of this book, by J. Nutting, has been published in the October issue of *Acta Crystallographica*, Section B, pages 2509–2510.