Book Reviews

Works intended for notice in this column should be sent direct to the Book-Review Editor (J. H. Robertson, School of Chemistry, University of Leeds, Leeds LS2 9JT, England). As far as practicable books will be reviewed in a country different from that of publication.

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Information and innovation. Edited by B. T. STERN. Pp. viii + 191. Amsterdam: North-Holland, 1982. Price Dfl. 90, US$ 41.75.

The ICSU Abstracting Board held its 1982 meetings in Amsterdam, and organized a two-day seminar on the *Role of information in the innovative process* immediately preceding the business sessions. The present book, produced in commendably quick time, contains slightly edited versions of the papers, followed by remarks by 'hecklers' and a panel discussion. The papers are aimed at an industrial rather than an academic audience, but there is much of incidental interest, particularly on costs and techniques of information transfer and acquisition. A brief review cannot do justice to the many contributions, but I particularly enjoyed *Economic and societal consequences of informatization* (H. Krupp), both in its spoken and its written form. A readable essay by Bacon decorates the cover.

The book is reproduced from typescript, and is about as good as can be expected from this unaesthetic process. It suffers greatly from the lack of any index.

A. J. C. WILSON

Crystallographic Data Centre
University Chemical Laboratory
Lensfield Road
Cambridge CB2 1EW
England

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Geometrical and structural crystallography. By J. V. SMITH. Pp. xiii + 450. London: John Wiley, 1982. Price £18·75.

I enjoyed this book; insofar as the author ends his preface with the words 'Enjoy yourself too', he has plainly succeeded in his aims in respect of at least one reader. It is a beautifully produced, well written and clearly illustrated account of classical crystallography of the sort normally associated with mineralogy courses. The treatment of the topics covered is thorough, and a particularly appealing feature is the inclusion of copious exercises at the end of each chapter.

The book begins with a treatment of packing considerations, and from this develops the ideas of pattern, unit cell and crystal shape and symmetry, introducing in two dimensions concepts later treated more fully in three. Polyhedra and crystal drawing are thoroughly and clearly treated, and finally the reader is gently led towards a full discussion of space-group considerations. At each stage the concepts are illustrated by reference to real structures (generally of mineralogical significance) and the author is always careful to introduce the relevant physical picture before filling in the mathematical background.

The only reservation one might have concerns the breadth of coverage: some might feel that the title implies a broader treatment than the subject actually receives in the book. For example, one will search in vain between its covers for any discussion of physical properties such as conductivity or ferroelectricity, or for any mention of organic crystallography, and this is perhaps a little disappointing in view of the emphasis in the preface on the interdisciplinary nature of crystallography.

The coverage is indeed implied both by the fact that the book forms part of an Intermediate Geology Series, and by the author's own background. Should anyone remark that it ought not to be necessary to know the author to guess the coverage of his book, one can only reply that this is in fact the way that most of us select our reading matter in the wider sense (*e.g.* novels). Knowing the author, neither the topics covered not the masterly treatment of them should be in the least surprising. For a thorough grounding in classical mineralogical crystallography, this book is to be heartily recommended.

L. S. DENT GLASSER

Chemistry Department
University of Aberdeen
Old Aberdeen AB9 2UE
Scotland

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Phonons: theory and experiment, I. By P. BRÜESCH. Pp. xii + 261. Berlin: Springer Verlag, 1982. Price DM 63.50, US $29.50.

This book is a compendium of various topics in lattice dynamics and phonons, designed to serve a wide spectrum of scientists interested in different aspects of phonon physics. The book, in the words of the author, 'is written by an experimentalist with some interest in theory, and is addressed mainly to experimentalists, but also to theoreticians interested in experiments'.

How many experimentalists will derive a benefit from reading this book has to be seen. Truly, the author has made a genuine effort in trying to bridge the gap between the level of the more abstract and theoretical treatments and that of a more practical and simple-minded approach, more suitable for experimentalists and non-physics scientists, such as chemists and crystallographers. The results are difficult to assess, however, since the treatment is uneven and sometimes hard to follow. Certainly, this is not the best place to learn lattice dynamics from scratch. The reader is supposed to already have a working knowledge of the field.