In most chapters this small book covers surprisingly deeply many aspects of X-ray diffraction. The necessary mathematics are not shunned, but the approach is such that a moderately bright student will not be deterred. Problems and judiciously chosen references for further reading are given at the end of each chapter and add to the usefulness of the book.

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Principles of crystal structure determination. By GENE B. CARPENTER. Pp.xii + 237. New York: Benjamin, 1969. Price not known.

This book takes the reader from a brief discussion of crystals, through a description of the diffraction of X-rays and crystal symmetry, to a review of the main methods of structure determination and refinement. It should be tested against the author's intentions, which he states in the preface to be the provision of 'a concise introduction' useful to those interested in structural results as well as those engaged in structure determination.

One of the shortcomings of the book stems from the author's preoccupation with brevity. The preface refers on five occasions to this feature of the book. Unfortunately, brevity is not always a virtue, and in this book, it has resulted at times in a breathless pace which is exhausting. This rapid style perhaps comes from the fact that the book is the evolution of a graduate level course, given by the author and the writing still has the ring of a lecturer's notes.

The book fails to meet the needs of those interested in structural results, because it largely belies its title. There is a lack of emphasis on principles, so that topics of widely differing importance receive comparable treatment. Methods for sharpening the Patterson function receive as much space as the discussion of the heavy atom and isomorphous replacement methods.

A chapter which characterizes the book is the short one on the reciprocal lattice. In the space of sixteen pages, all the important properties of the reciprocal lattice are discussed. The lecturer or the class student has all that he needs to hand. But, the idea of the reciprocal lattice is introduced without any justification, perhaps by an appeal to the Laue equations. Given that the lecturer will do this for his students, the chapter is an excellent précis of the properties of the reciprocal lattice. But, a novice reading the chapter for the first time, will require convincing that he has not seen a rabbit pulled from a hat. It is certainly easier to define the reciprocal lattice and then to show its physically significant properties, but in a book which claims to be an introduction to the subject, surely the reader is entitled to receive some evidence of its usefulness before embarking on a formal definition of a mathematical abstraction.

One of the stimulating features of the book is the author's brave attempt to depart from the conventional order of treatment of the subject. Anyone who has attempted to construct a lecture course knows that, while it is essential to introduce symmetry early in the discussion, this is *a priori* the least interesting part of the subject for the beginning student. Professor Carpenter has delayed the discussion of symmetry until after the treatment of the geometrical and physical aspects of diffraction. Although the resulting treatment is not perfect, it must encourage the teacher to adjust his order of presentation to suit the interest of his class.

Because of the lack of stress on the principles of the subject and the very brevity of the text, it seems unlikely that the individual student would find this book as suitable as comparable texts for solitary study, or for general background reading. However, it should be useful to lecturers on X-ray crystallography, and in many cases could profitably be used as a class text. In addition, the practising crystallographer would find this book a concise and complete *aide memoire* on the basic facts of his subject.

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Crystallographic computing. Proceedings of the 1969 International Summer School on Crystallographic Computing. Edited by F. R. AHMED. Pp. 383. Copenhagen: Munksgaard, 1970. Price D.kr. 187,50, £ 10·94

This book contains the proceedings of an International Summer School on Crystallographic Computing organized by the Commission on Crystallographic Computing of the International Union of Crystallography and held in Ottawa at Carlton University, 4–11 August 1969. There were 38 invited speakers on 14 topics covering the following aspects of crystallographic computing:

Direct methods of phase determination,
Automatic interpretation of vector maps,
Utilization of anomalous dispersion and isomorphous replacement for elucidation of large molecules,
Least-squares procedures in crystal-structure analysis,
Least-squares refinement of atomic parameters,
Analysis of thermal vibration,
Absorption and extinction corrections,
Organization of crystallographic computer systems,
Programs for computer-controlled diffractometers,
Protein programs
Fourier techniques
Data files,
Algol,
Standard tests.

This work is an important contribution to crystallographic literature and every practising crystallographer should ensure that a copy is readily available. A great deal of the material is very basic and will not date too quickly so that, even though the price of the book is high, it should give many years of service.

It is difficult to comment on details of the presentation of a book with so many contributors – thirty-eight authors constitutes a fairly large sample and the variations of style and clarity reflect this. However the overall impression