BOOK REVIEWS

FISHER (J. C.), JOHNSTON (W. G.), THOMSON (R.), and VREELAND (T., Jr.), editors. *Dislocations and Mechanical Properties of Crystals.* New York (John Wiley & Sons) and London (Chapman & Hall), 1957. xiv+634 pp., 9 tables, 348 text-figs. Price (bound) 120*s*.

This book consists of forty-two papers (with discussion) presented at a small International Conference on Dislocations and Mechanical Properties held at Lake Placid, New York, on 6–8 September 1956. There were forty-one members of the conference, each prominent in this field. From the record of this book, it would appear that a small conference of this kind provides the best method for the interchange of information and ideas between leading workers in a particular field. The value of such a conference is immeasurably increased by recording the proceedings so that they are available to all other workers; the editors of this book must be congratulated on producing with great care and promptness a work which will be of great value to those interested in the mechanical aspects of dislocations.

The report is divided into eight parts: I, Direct Observations of Dislocations; II, Deformation of Pure Single Crystals; III, Work Hardening and Recovery; IV, Alloy Crystals, Impurities, Yield Point Phenomena; V, Dislocation Damping and Fatigue; VI, Theory of Dislocations; VII, Whiskers and Thin Crystals; VIII, Radiation Damage. The text is well printed and relatively free from minor errors; it is copiously illustrated by clear and useful figures. The reader is made aware that the subject of dislocation properties has undergone, at least partially, the transition from an entirely theoretical concept to one in which the experimentalists can directly observe the dislocation systems and their relationship to mechanical properties. In this way, the stimulus is provided for a new development of the theoretical approach, particularly in the study of the properties of assemblies of dislocations and in the relatively new field of radiation damage. P. GAY

LIPSON (H.) and TAYLOR (C. A.). *Fourier Transforms and X-ray Diffraction.* London (G. Bell & Sons Ltd.), 1958. vii+76 pp. Price 18*s*. 6*d*.

The application of Fourier-transform theory to the study of X-ray diffraction by crystals is a very important feature of the development

of structure-analysis in recent years. The authors stress the physical principles involved, in preference to the formal rigidity of purely mathematical treatments.

The monograph achieves its aim, which is to serve as a basic introduction for students working in this field; but only those mineralogists with a direct interest in structure analysis, or in rather abstruse aspects of physical-optical principles, will need to master its contents.

W. H. TAYLOR

TWENEY (C. F.) and HUGHES (L. E. C.). *Chambers's Technical Dictionary*. Edinburgh (W. & R. Chambers Ltd.), 3rd edn, 1958. viii+1028 pp. Price 35*s*.

A useful collection of definitions of technical terms in a wide range of pure and applied sciences. Of the pure sciences, the zoological and botanical branches appear to contribute most terms. To the mineralogist, the main value of a dictionary of this kind is to elucidate terms in other branches of science, and the present volume should prove very useful in this way.

M. H. H.