

lengths adopted in 1946 for X-ray targets of molybdenum, copper, nickel, cobalt, iron and chromium. The last two tables contain a rearrangement of the data for copper and iron so that the argument is  $2\theta$  in intervals of  $0.02^\circ$  from

$0$  to  $180^\circ$ . The publication is cloth bound and contains 159 pages. It is listed as AMS 10 at \$1.75. Order from the Superintendent of Documents, Government Printing Office, Washington 25, D.C., U.S.A.

## Book Reviews

*Works intended for notice in this column should be sent direct to the Editor (P. P. Ewald, Polytechnic Institute of Brooklyn, 99 Livingston Street, Brooklyn 2, N.Y., U.S.A.). As far as practicable books will be reviewed in a country different from that of publication.*

**Das Polarisationsmikroskop, eine Einführung in die mikroskopische Untersuchungsmethodik durchsichtiger kristalliner Stoffe für Mineralogen, Petrographen, Chemiker und Naturwissenschaftler im Allgemeinen.** By CONRAD BURRI. Pp. 308, with 168 figs. Basel: Birkhäuser. 1950. Price unbound 28.80 Swiss francs, bound in cloth 32.80 Swiss francs.

The several chapters of this text-book of optical crystallography deal thoroughly with crystal optics, the microscope (including theory and ray diagrams as well as hints for the care of the instrument and of the operator's eyes), observations in ordinary light, pleochroism, orthoscopic and conoscopic methods, immersion methods, and the universal stage. In each section the student is first introduced to theoretical aspects of the problem. Practical methods for the application of the new concepts are then described. The treatment throughout the book is accurate and modern, including sufficient analytical formulation to permit quantitative derivation of results. Undue emphasis on the mathematics is avoided by the inclusion of good qualitative explanations of the phenomena. Excellent illustrations, mostly line drawings, are provided; their unusually long and informative legends constitute an uncommon and valuable feature of the book.

An elementary student in crystal optics would obviously need the advice and guidance of an instructor, who would supply specific examples and exercises. A moderately experienced student could easily use this book for further independent work towards an understanding of the subject, and advanced workers will find it a valuable reference work on methods and theories, to be used when the very extended references such as the works of Johannsen and of Rosenbusch are more detailed than necessary. It is a fine

addition to its publisher's well-known series of science texts, and a great credit to its author.

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**Plasticity of Crystals.** By E. SCHMID and W. BOAS. Pp. 353 + xvi, with 222 figs. and 42 tables. Translated from the German. London: F. A. Hughes and Co. 1950. Price 35s.

It is regrettable that this excellent English translation did not appear many years earlier, when its value would have been much greater. No revisions or additions have been made to the original 1935 German text. To the metallurgist or physicist with active experience in crystal plasticity, the value of the work is already established and no review is necessary. Also the value of the English translation will vary considerably with the individual, his interests and reading knowledge of German. It is safe to say that *Kristallplastizität* is more of a standard reference in current metallurgical literature than in solid-state physics. The experienced worker in the mechanics of crystals is thus the best judge of the value of this book to himself, and the number of references to the original in current literature shows that this translation fills a definite need.

On the other hand, it seems safe to say that this translation was not intended for the student or for the specialist in another field who desires a well-rounded introductory survey of crystal plasticity. For the most part the present work is of value for its comprehensive survey of experimental work prior to 1935 and for the lucid treatment of the geometry of deformation and rotation in a single crystal.

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## Books Received

*The undermentioned works have been received by the Editors. Mention here does not preclude review at a later date.*

**Crystal Growth.** By H. E. BUCKLEY. Pp. xv + 571, with 357 figs. New York: Wiley; London: Chapman and Hall. 1951.

**Structure of Molecules and the Chemical Bond.** By Y. K. SYRKIN and M. E. DYATKINA, translated and revised by M. A. PARTRIDGE and D. O. JORDAN. Pp. ix. + 509, with 87 figs. and 174 tables. New York:

Interscience Publishers; London: Butterworths Scientific Publications. 1950. Price \$8.75.

**Selected Topics in X-ray Crystallography from the Delft X-ray Institutes.** Edited by J. BOUMAN. Pp. 391, with 192 figs. and 25 tables. Amsterdam: North-Holland Publishing Co. 1951. Price f. 38; 76s; \$11.00.