

Notes and News

Announcements and other items of crystallographic interest will be published under this heading at the discretion of the Editorial Board. The notes (in duplicate) should be sent to the General Secretary of the International Union of Crystallography (Dr D. W. Smits, Laboratory of Inorganic and Physical Chemistry, 10 Bloemsingel, Groningen, The Netherlands).

International Union of Crystallography

**Fifth General Assembly, International Congress
and Symposia Cambridge, England,
15-24 August 1960**

(1) *Symposia*

Introductory lectures will be given on the morning of Saturday, 20 August as follows:

I. (Thermal motion in crystals and molecules) by J. C. Slater.

II. (Lattice defects and the mechanical properties of solids) by N. F. Mott.

(2) Intending members are reminded that the arrangements for the printing of the collected Abstracts of papers offered for the Congress and for the Symposia require the Programme Committee to adhere *strictly* to the closing date, 1 March 1960, fixed for the receipt by W. H. Taylor of offers of papers.

(3) The Congress Executive also emphasises that it cannot undertake to find residential accommodation for intending members requesting registration after 1 March 1960.

International Union of Crystallography

Meeting on Electron Diffraction Data

A meeting was held at Mellon Institute, Pittsburgh, Pa., U.S.A. on 11 November, 1959, to discuss the possibility and need for making electron-diffraction data more generally available. About 20 individuals attended this meeting, with Dr Victor Hicks, Allen-Bradley Corporation, Milwaukee, Wis., presiding. It was decided by this group that it would be desirable to make electron-diffraction data generally available and that the ultimate goal should be to prepare compilations of these data in a form similar to the ASTM X-ray diffraction card-file. To initiate action on this project, Dr William Fink, vice-chairman of the Joint Committee on Chemical Analysis by Powder Diffraction Methods (a joint project of the American Society for Testing Materials, American Crystallographic Association, and The [British] Institute of Physics), was designated to represent the group at the Cambridge, England, meeting of the International Union of Crystallography in August 1960, and to present the problem to the international groups concerned. To determine the extent of interest in this project, you are requested to write to Karl E. Beu, Chairman of the Powder Diffraction Subcommittee of the Apparatus and Standards Committee of American Crystallographic Association, Goodyear Atomic Corporation, P.O. Box 628, Portsmouth, Ohio, indicating your interest and submitting your comments on this project. Please send in comments prior to 1 July 1960, and send a copy of your letter to the Chairman of the Commission on Electron Diffraction of the International Union of Crystallo-

graphy, L. O. Brockway, Chemistry Department, University of Michigan, Ann Arbor, Mich., U.S.A.

International Union of Crystallography

Index of Crystallographic Supplies

A second edition, edited by A. J. Rose, has been recently published by the Commission on Crystallographic Apparatus of the International Union of Crystallography. It is paper bound, contains 125 + xxvi pages, $10\frac{5}{8} \times 8\frac{1}{4}$ in.

The book is divided into four sections. I. *List of Equipment and Supplies*. The equipment is classified in 11 categories corresponding to its use: supply of crystals and sample preparation; physical, morphological and optical properties; microradiography; X-ray spectrography; crystal-structure determination by X-ray, electron and neutron diffraction; physical and chemical analyses; computations. A brief specification is sometimes included and a code-word representing each manufacturer of the product is listed. Only materials that are commercially available are included. II. *Literature References*. A list of publications on the interpretation of experimental data, e.g., charts, tables and technical documents. A list of books on crystallography published since 1903, and a list of crystallographic periodicals. III. *Advertisements*. IV. *Addresses of Manufacturers and Suppliers*. The list includes up to 10 branches in various nations.

Copies of the Index can be purchased from, and cheques should be made payable to, the Société française de Minéralogie et Cristallographie (IUCr), 1 rue Victor-Cousin, Paris 5^e, France. The price is \$2.50 per copy shipped by surface mail; the order should be accompanied by payment in bank cheque or postal money order (C.C.P. Paris 6168-45).

A limited number of copies, one to a person, will be distributed free of charge to crystallographers in the nations adhering to the Union. Each of these nations will receive a number of free copies equal to about one-half of the number of crystallographers listed in the first edition of the *World Directory of Crystallographers*. Requests should be addressed to the Secretaries of the National Committees (see *Acta Cryst.* (1959), **12**, 616), but for the following nations to the persons named in the list:

Argentina. Mrs Maria E. J. de Abeledo, Comisión Nacional de Energía Atómica, Avda Libertador Gral. San Martín 8250, Buenos Aires.

Israel. Prof. G. M. J. Schmidt, Department of Crystallography, The Weizmann Institute of Science, Rehovoth.

New Zealand. Prof. D. Hall, Chemistry Department, University of Auckland, Auckland.

Poland. Prof. W. Trzebiatowski, Polska Akademia Nauk, Instytut Chemii Fizycznej, Zakład Badań Strukturalnych, Wybrz. Wyspiańskiego 27, Wrocław.

Sweden. Dr Arne Magnéli, Kemiska Institutet, Stockholms Högskola, Stockholm.

Switzerland. Dr M. Weibel, Institut für Kristallographie, Sonneggstrasse 5, Zürich 6.

U.K. Dr H. R. Lang, The Institute of Physics, 47 Belgrave Square, London, S.W. 1.

U.S.A. Dr W. Parrish, Philips Laboratories, Irvington-on-Hudson, N.Y.

Conference on Computing Methods and the Phase Problem in X-ray Crystal Analysis Glasgow. 9-12 August 1960

A small conference under the above title is being planned by Prof. Ray Pepinsky and Prof. J. Monteath Robertson to be held in Glasgow, Scotland, during the week before the Fifth International Crystallographic Congress in Cambridge, England. It will be recalled that a conference under this title was held in State College, Pa., U.S.A., in 1950. Since that time there have been tremendous developments, especially in the field of electronic digital computing, and at the decennial meeting it is hoped to accumulate, emphasize and develop new ideas. These will be arranged broadly under two heads: (a) on com-

puting techniques, programs and applications, and (b) on the theory of the phase problem.

A small number of people have been invited to present papers at this conference, and it is hoped that preprints will be available at the time of the meeting. It is intended to publish the proceedings in book form as soon after the conference as possible.

With regard to (a), there are now so many machines and programs in existence that an effort must be made to avoid undue repetition; in some cases summarizing talks will be necessary, with attempts made to cover all significant developments. In general the plan will be for one author to deal with each of the more important types of digital machine. Under (b) it is hoped that the more important recent developments on the theory of the phase problem will be adequately covered.

The conference itself will be held in the Chemistry Department, The University, Glasgow, Scotland, and is expected to occupy 3 days. Inexpensive accommodation will be available in some nearby University halls of residence for a limited number of participants. Intending participants should apply to Dr J. C. Speakman (Chemistry Department, The University, Glasgow, W. 2, Scotland) for a registration form, which should be returned not later than 15 April 1960.

Book Review

Works intended for notice in this column should be sent direct to the Editor (A. J. C. Wilson, Department of Physics, University College, Cathays Park, Cardiff, Great Britain). As far as practicable books will be reviewed in a country different from that of publication.

Single Crystal Orienter Instruction Manual.

By Dr THOMAS C. FURNAS JR with cooperation of the X-ray Department General Electric Co. Pp. 174 with 94 figs. Published by General Electric Company, Milwaukee, Wisconsin. 1957.

This is a thorough analysis of all the problems likely to be encountered in using the X-ray diffractometer manufactured by the General Electric Company, U.S.A. There are eleven chapters; the first three are concerned with general crystallographic theory with especial emphasis on the application of the reciprocal lattice to the use of the instrument; the next five chapters deal mainly with single crystal problems and the remaining chapters are concerned with polycrystalline aggregates or imperfect crystals. The manual has been written in the early chapters as though the reader had no previous knowledge of crystallography. The beginner must, however, soon be out of his depth. It should also be said that some difficulties are placed in the student's path. A concept is confused with a real object when the manual states that the origin of the reciprocal lattice is at the centre of the crystal (p. 7). The reciprocal lattice and Ewald sphere are used for finding directions of reflected rays and not the material object from which they arise. It also seems unfortunate to regard as lattice planes only those having no common factor in their Miller indices (p. 67). Since all planes of the type *hkl* intersect lattice points in an identical manner, no matter whether they have a common factor or not, it is difficult to see the justification for treating them in different ways. There is a notable lack

of a definition of integrated reflection (p. 71), although great pains are taken to explain how accurate measurements of intensity are made.

The great merit of the book is the description of the diffractometer and all the various tests and corrections which have to be made or applied. For the trained crystallographer wishing to use the General Electric instrument the manual is particularly helpful and it will also be useful to other users of diffractometers. The detailed tables of permissible sizes of apertures and the effects on these of mosaic spread, crystal size, presence of $K\alpha$ doublet doublets, etc. is most valuable. The diagrams explain clearly the geometry of the various measurements and the numerous reproductions of the pen-records given by the ratemeter will help everyone to see what may be expected from the instrument.

The author argues (p. 1) that the diffractometer is simpler to operate than photographic goniometers. It is doubtful whether many readers of this manual will come to the same conclusion. Generally speaking it is better to study any pattern of X-ray reflections photographically and to make any quantitative measurements with a diffractometer. Perhaps it would be more helpful to attempt a combination of photographic and diffractometer techniques even on this particular instrument rather than to attempt to solve every problem using a counter.

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