

and Lyell. After his return to the United States he gave lectures on geological topics in New York and Philadelphia, and it was at the urging of his friends in Philadelphia that he founded the *Monthly Journal*. Many of the articles in it were by Featherstonhaugh himself, including a series entitled 'An Epitome of the Progress of Natural Science' followed by others on 'The Crust of the Earth'. Mineralogy occupied a very minor place in the Journal but the editor took pains to publicize the claims of Andres del Rio to have been the original discoverer of vanadium, in 1802. The articles are not confined to American topics, and James Dickson, F.G.S. supplied an interesting paper 'On the Silver, Gold and Platina of Russia' and an unidentified British correspondent wrote about the vitrified forts of Scotland.

The Journal reflects a picture of American geology and geologists over a very brief time range, and the introduction and biographical sketch of Featherstonhaugh by Professor White increases its interest. The use of what is possibly a unique copy of the original Journal, with all the printed covers, to prepare this facsimile edition adds to its value.

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J. M. EYLES

Optical properties of solids. Edited by S. NUDELMANN and S. S. MITRA. Pp. xi+641. New York: Plenum Press, 1969. Price \$35.00.

These proceedings of the NATO Advanced Study Institute at Freiburg in 1966 provide a very readable review of the broad field of optical phenomena in solids. The first part concentrates on the electronic properties of semiconductors varying from narrow to wide gap, while the rest of the book discusses the vibrations of perfect crystals, point defects, their vibrational and electronic spectra, and electron-phonon interactions.

Twenty two lecturers at the Summer School each provide a chapter: though each contribution carries the distinctive stamp of its author, reasonable continuity has been maintained. Group theoretical terminology is developed in the first chapter and widely used: there is a welcome absence of orgies of many-body theory.

Though some of the material is already dated, this is a very valuable account of the field. Alas, at a price of thirty five dollars, most of us will consult a library copy.

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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 Executive Secretary of the International Union of Crystallography (J. N. King, 13 White Friars, Chester CH1 1NZ, England). Publication of an item in a particular issue cannot be guaranteed unless the draft is received 8 weeks before the date of publication.

The Second Symposium on the Thermal Expansion of Solids 10-12 June 1970, Santa Fe, New Mexico, U.S.A.

The Second Symposium on the Thermal Expansion of Solids will be held in Santa Fe, New Mexico, U.S.A. on 10-12 June 1970, under the joint sponsorship of the University of Illinois and Sandia Laboratories. The symposium covers recent advances in theoretical and experimental studies of thermal expansion and its relation to other properties of solids. The proceedings will be published. The deadline for receiving abstracts is 30 March 1970; further information may be obtained from Prof. Ralph O. Simmons, Physics Department, University of Illinois, Urbana, Illinois 61803, U.S.A. or Dr Duane C. Wallace, Solid State Physics, Division 5151, Sandia Laboratories, P.O. Box 5800, Albuquerque, New Mexico 87115, U.S.A.

International Union of Crystallography Eight International Congress: Abstracts

The communicated abstracts of the Congress, including Topical Meetings, have already been published in May 1969

as a 295-page supplement, part S3, of *Acta Crystallographica* Volume A25. This supplement is available at a price of D.kr. 75 (U.S. \$10.00, £4.4s.) from Munksgaard Ltd, Prags Boulevard 47, DK-2300 Copenhagen S, Denmark.

Differing only in the outer covers and title *Collected Abstracts*, as provided to all Congress participants. This volume is available at a price of U.S. \$10.00 from the Polycrystal Book Service, P.O. Box 11567, Pittsburgh, Pa. 15238, U.S.A.

International Union of Crystallography Early Papers on Diffraction of X-rays by Crystals

The Executive Committee of the International Union of Crystallography has pleasure in announcing the publication in August 1969 of *Early Papers on Diffraction of X-rays by Crystals*, edited by J. M. Bijvoet, W. G. Burgers and G. Hägg. This book contains xvi + 372 pages, 93 figures and 8 plates. It has been published for the Union by A. Oosthoek's Uitg. Mij. N.V., Domstraat 9-13, Utrecht, Netherlands, from whom it can be obtained at a price of 48 Netherlands Guilders (U.S. \$13.50 or £5.14s. at the present rates of

exchange). It is also obtainable from Polycrystal Book Service, P. O. Box 11567, Pittsburgh, Pa. 15238, U.S.A., or from any bookseller.

The volume contains extracts from more than 80 of the most important early papers on X-ray crystallography, arranged in such a way as both to form a history of the science and to serve as a teaching aid. The papers span the period 1912-1934. The five chapters are entitled: *The*

discovery of X-ray diffraction by crystals, interpretations and some of the first structure determinations; The reciprocal lattice; The intensity factors of the kinematical theory; The dynamical theory; The f-factor continued, extinction, anomalous scattering. A second volume covering the development of X-ray crystallography in the 'trial-and-error' period and the (re)birth of the Fourier method is planned.

International Union of Crystallography

Commission on Crystallographic Apparatus Single-Crystal Radiation Damage Survey

Changes in the integrated intensities of some single-crystal reflexions have been observed as a function of increasing exposure to X-rays. With certain crystals, substantial variation has been noted in the first few hours while a more common pattern is of relatively small intensity changes over longer exposure periods. The integrated intensity of a given reflexion may either increase or decrease or be subjected to a combination of effects with different time dependences as the radiation damage continues. As a result, major systematic error may enter both the diffractometer measurement of intensity and the values of structure factors derived without adequate attention to the functional effects of radiation damage.

The Commission on Crystallographic Apparatus plans to conduct a preliminary survey of the extent to which systematic changes in integrated intensity are caused by radiation damage. All crystallographers making integrated intensity measurements with a diffractometer are cordially invited to take part in the survey. In order to encourage the widest possible participation, the experimental requirements of the survey are designed to be easily accommodated within normal crystal structure data collection procedures.

Participants will be invited to select a small group of reflexions, from a crystal of their choice (which may be one they are currently investigating), on the basis of relative magnitude and position in reciprocal space. The integrated intensities of this group are to be remeasured at periodic intervals throughout the duration of the experiment. It is expected that the participants' normal experimental time for crystal structure data collection will be increased only by a moderate amount on taking part in this survey. An indication of the sensitivity of various categories of chemical composition to radiation damage is likely to be among the results of this survey, which will be disseminated as soon as possible after its completion.

Details of the experimental information to be supplied by participants may be obtained from Commission member:

Dr. S.C. Abrahams, Bell Telephone Laboratories, Inc., Murray Hill, N.J. 07974, U.S.A.

Recent Advances in Crystallographic Apparatus

During the VIIIth Congress of the International Union of Crystallography, the Commission on Crystallographic Apparatus sponsored an exhibition of recently developed non-commercial apparatus. There were over fifty exhibits of apparatus and descriptive material in the form of reprints, preprints, photographs and diagrams. Recent developments in the following areas were featured: high-pressure and high- and low-temperature cameras and diffractometer accessories, solid-state detectors, safety devices, X-ray interferometers, sphere grinders, goniometer heads and crystal models and model-building equipment. In addition a model of a small-angle neutron diffraction unit, a moving-film oscillation camera, an automatic pole figure plotter, and an image intensifier for dynamic X-ray diffraction studies were on display. A list of the exhibits, names and addresses of the exhibitors and references to any published descriptions of the apparatus is available from the Commission member concerned: Dr. Reuben Rudman, Chemistry Department, Adelphi University, Garden City, New York, 11530, U.S.A.

Index of Crystallographic Supplies

The Commission on Crystallographic Apparatus plan to publish a new edition of the *Index of Crystallographic Supplies*. The readers of this Journal are urged to assist in the preparation of the Index by supplying us with the names and addresses of manufacturers and distributors of instruments and accessories used in X-ray diffraction studies. We are most interested in obtaining information regarding small, relatively unknown manufacturers of specialized accessories, in particular, those located outside the U.S.A. Please send all information to Dr Rudman at the above address.