and the projection method, and the leading exponents will introduce each subject. Sessions will also be devoted to applications in biology, medicine, metallurgy and other fields, including industrial applications.

Further information may be obtained from Dr W. C. Nixon, Cavendish Laboratory, Cambridge, England.

A.S.T.M. X-ray Diffraction Data Card File

Section 6 of the *X-ray Diffraction Data Card File*, distributed by the American Society for Testing Materials, has recently been completed and published. It is available in plain and keysort cards and covers approximately 600 new powder patterns and 600 revised and improved data patterns previously issued in Sections 1–5 inclusive. A revised *Cumulative, Alphabetical and Grouped Numerical Index of X-ray Diffraction Data* (STP 48E), including the new Section 6, has also been published.

The alphabetical index comprises 300 pages and is subdivided as follows: inorganic, organic, organic formula, and minerals. The organic formula index is new with this edition and is an aid in finding the data for organic compounds which, in many cases, are known by different names. Entries are grouped according to the number of carbon atoms in the molecule and according to the number of different elements other than carbon in the molecule. The numerical index contains 382 pages of entries classified into Hanawalt groupings of the three most intense lines of the diffraction patterns. Each substance is listed three times in the numerical index with each of its three strongest lines first, to make it possible to find the desired entry even though the unknown pattern may have one or two of its strongest lines omitted.

The *Index* also includes a list of cards in the data file recommended for deletion, cards which have been replaced by preferred data more complete or more accurate than cards previously issued.

Section 6 of the *X-ray Diffraction Data Card File* on plain cards (3 × 5 in.) is priced at $135·00 for the first deck and $50·00 per deck for additional decks. Section 6 on keysort cards (4 × 6 in.) is priced at $185·00 for the first deck and $70·00 per deck for additional decks. A copy of the *Index* is furnished without charge with each order; it may also be purchased separately for $10·00 per copy. Orders or inquiries for additional information should be addressed to the American Society for Testing Materials, X-ray Department, 1916 Race Street, Philadelphia 3, Pa., U.S.A. (In Great Britain the *X-ray Diffraction Data Card File* is distributed by the British Institute of Physics, 47 Belgrave Square, London S.W. 1, England.)

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.

Microstructures of diamond surfaces. By S. Tolansky. Pp. viii+67 with 143 figs. London: N. A. G. Press. 1955. Price 40*s*.

This monograph constitutes a livelily presented interim report of the extensive mass of observations, mostly unpublished, on the micro-structure of diamond surfaces, made by Prof. Tolansky and his co-workers in the course of the last years.

Prof. Tolansky has undertaken a really thorough study of the micro-topographical structure of diamond surfaces, both natural and treated in a number of ways. In this short review it is possible only to summarize briefly the various objects of his study: growth figures, cleavage surfaces, corrosion figures, traces of possible plastic flow (slip), percussion marks, polished faces, sawn faces, the quality of diamond tools.

Apart from ordinary microscopy, optical techniques of very high sensivity were mostly used, especially those which have been developed and amplified by Prof. Tolansky himself since 1940, i.e. multiple beam interferometry, the light-profile microscope, and optical shadow casting.

Over 140 plates of a rare quality illustrate how ideally suited these techniques are for the purpose. Prof. Tolansky has been able to reveal and to measure a wealth of interesting (and sometimes unexpected) detail on the so-called 'perfect' surfaces of diamond.

As diamond is a material which interests a broad public, the book is kept within a reasonable length, and is written for the general reader. The chapters dealing with the elements of the optical techniques and with the crystallographic characteristics of diamond are therefore very brief, and even the simplest mathematics are avoided. The physical interpretation of some observed features is not very extensively discussed, a fact which, of course, may be regretted by a number of research workers.

As a conclusion, we recommend this monograph, both to these research workers of different scientific and technological branches who are interested in diamond and to the crystallographers who are interested in the properties of crystal surfaces in general. Interested specialists can find at the end a bibliography with references for a more detailed pursuit of the subject.

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