

thermal conductivity, transistors and many other topics are each treated in no more than a page or two of text, while the section on crystal chemistry (less than 50 pages) is almost exclusively descriptive. The work is, indeed, a 'compendium', but it is doubtful whether the student would be able to follow much of the material without the assistance of many supplementary works. Fortunately, references to such works are numerous.

The German translation is better printed and better bound than the Dutch original, but not so much better as to justify a price nearly two and a half times as great. In fact, the price is outrageous, and at 29s. per 100 pages compares very unfavourably with other well known crystallographic works such as Nye's *Physical Properties of Crystals* (16s.), Megaw's *Ferroelectricity in Crystals* (13s.), Born & Huang's *Dynamical Theory of Crystal Lattices* (12s.), and (biggest bargain of all) Wells's *Structural Inorganic Chemistry* (7s.). In any case, however, this translation is likely to be of very limited interest outside of German-speaking countries in view of the fact that an English version is understood to be in an advanced stage of production.

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**Growth and Perfection of Crystals: Proceedings of an International Conference on Crystal Growth, Cooperstown, New York, Aug. 1958.** Edited by R. H. DOREMUS, B. W. ROBERTS and D. TURNBULL. Pp. 609. London: Chapman and Hall; New York: Wiley. 1958. Price £5.0.0, \$12.50.

To this formidable report 51 authors have contributed and it is only possible to indicate but briefly the content. The report is richly illustrated. The growth of crystal whiskers occupies a relatively large section, for no less than 275 pages are devoted to this aspect with 17 separate contributions from 24 authors. The range covered extends from graphite to non-metal and to metal whiskers, even to the study of ferromagnetic domains in iron whiskers. Effects of irradiation, etching, straining, electrochemical behaviour, plastic deformation and indeed a whole host of aspects are reported on. Some admirable electron-microscope pictures are reproduced. An outstanding contribution covering 84 pages is that on growth of crystal whiskers by Nabarro and Jackson, which is brilliantly illustrated and is a masterly summary with no less than 246 references. A most impressive contribution indeed.

A hundred pages (9 contributions) are concerned with crystal growth from the solvent phase. Methods are described for growing large silicon crystals largely free from dislocations. Growth of crystals of the solute phase occupies 74 pages (7 contributions) and the growth of synthetic quartz crystals is included here. Section VI which deals with crystallization of polymers ends the report with 125 pages (8 contributions). An attractive paper here is the review on Morphology of Crystalline Polymers by A. Keller, another beautifully illustrated article, also with a comprehensive bibliography. This last section also includes a valuable paper by F. P. Price on A Light Scattering Investigation of Crystal Growth in Polyethylene (a material which incidentally attracted contributions in no less than five papers).

Your reviewer marvelled at the very large numbers of

beautiful photographs of the microtopographies of crystals but was forcibly struck by the *complete absence* of any interferometric examinations of surface microtopographies. This seems a remarkable failing in a research field of this character. Why use *two-dimensional* microscopy only, when *three-dimensional* microscopy is available? Is it that experimenters have not yet realized that multiple-beam interferometry offers three-dimensional microscopy? Or is a more plausible explanation that as yet crystal morphology specialists, as such, have not yet learnt the necessary optical techniques of multiple-beam interferometry?

Any one engaged on any branch of crystal growth is well advised to dip into this volume. Somewhere in the mass of information presented he will find something of personal interest. There is very little on X-ray structure; the reports are more concerned with morphology.

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**Gleichgewichts- und Wachstumsformen von Kristallen.** By Dr B. HONIGMANN. Pp. 154. Darmstadt: Dr Dietrich Steinkopff Verlag, 1958. Price DM. 26.00.

This short work is presented strictly from the point of view of I. N. Stranski and his students, of whom the author is one. Such a work is valuable in that it enables one to study the point of view of this school by reading a single source, but it also suffers from the limitations of this point of view.

The strong points of this book are the tables and figures presenting experimental data concerning the habit of many simple crystals, and the brief section on experimental determinations of crystal growth rates. Even in these sections the data have been carefully selected. Much important work by English and American authors on growth forms and rates has been omitted. In fact, the great impact dislocation theory has had on the crystal growth theory and the interpretation of experimental results has been drastically minimized. Furthermore, in the opinion of this reviewer, no modern discussion of growth forms of crystals, no matter how brief, should exclude all references to 'whisker' growth.

The last section of the book is devoted to the theory of crystal growth and the development of equilibrium forms as presented by I. N. Stranski and his students over the past thirty years. This theory is correct insofar as the assumptions on which it is based are correct. However, if there is a large body of experimental data demonstrating that it applies to the growth of real crystals, the author does not present it. This is especially the case in the discussion of the effect of impurities on growth habit. In this case, the many publications concerned with this problem were, for the most part, ignored, and no comparison of theory with the few data presented is attempted.

There is a fairly complete bibliography at the end of the work which includes many references only mentioned in the text.

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## International Union of Crystallography

### Report of Executive Committee for 1958

#### Introduction

The Executive Committee wishes to begin this report by expressing sympathy with the French crystallographers in their bereavement of Professor Charles Mauguin who died in April 1958. His death formed a great loss for the community of crystallographers. Professor Mauguin was one of the members of the International Committee which was set up in 1946 to organize the establishment of the Union. Since the creation of *Acta Crystallographica* he had served on its Advisory Board. A more detailed obituary has been published in this journal (see *Acta Cryst.* (1958), **11**, 513).

On the occasion of the annual meeting of the *Association française de Cristallographie*, seven members of the Executive Committee of the Union met in Paris in the spring of 1958. Although at this informal meeting no decisions could be taken, the exchange of views on the activities of the Union was most valuable, and made it possible to reach decisions quickly by postal ballot.

Later in the year, the Academy of Sciences of the U.S.S.R. extended a cordial invitation to the Union to take part in the commemoration of the great Russian crystallographer E. S. Federov by holding the intermediate Symposia in Leningrad in May 1959. The invitation was accepted with gratitude. As already announced earlier (see *Acta Cryst.* (1959), **12**, 174), one of the Symposia will be devoted to Crystallochemical Analysis and Crystal Chemistry, whereas the topics of the other Symposium are in the field of Electron Diffraction. The second Symposium has been organized in cooperation with the Commission on Electron Diffraction.

The Commission on Crystallographic Apparatus made arrangements for three Conferences; and an invitation from the Karolinska Institutet to hold these meetings in their buildings in Stockholm in June 1959 was gratefully accepted (see also *Acta Cryst.* (1958), **11**, 826).

For the Fifth International Congress and subsequent Symposia, which will be held in Cambridge, England, from 15 to 24 August 1960, a Programme Committee was appointed in 1958, consisting of Dr W. H. Taylor, Chairman, and Professors R. E. Rundle, E. H. Wiebenga and G. S. Zhdanov. This Committee had its first meeting in January 1959. Its recommendations and proposals will be discussed and decided upon by the Executive Committee in Leningrad in May 1959.

The present twenty-two Adhering Bodies, along with the names and addresses of the Secretaries of the National Committees, are listed in Table 1. Four applications for admission to the Union have been received to date; these will be discussed at the Executive Committee meeting, and put to the vote of the General Assembly in Cambridge. In addition information has been received that the arrangements for a representation of the German crystallographers in the Union by one Adhering Body have been successfully completed.

In the next section more details are given about the activities of the various Commissions of the Union.

#### Work of the Commissions

##### *Commission on Acta Crystallographica*

Dr R. C. Evans, who has been one of the founders of *Acta Crystallographica*, and who had served as British Co-Editor and Technical Editor since the journal was launched in 1948, was at his request released of his task by 1 April 1958. The Union owes a deep debt of gratitude to him for the great amount of time and endeavour he devoted to the business of the Union and to *Acta Crystallographica* in particular. For a summary of the work of Dr Evans reference may be made to the two notices which were published on the occasion of his resignation (see *Acta Cryst.* (1958), **11**, 311, 512). The Executive Committee was glad that Professor R. W. Asmussen was found prepared to take over the heavy burden of the technical editorship of the journal from the date mentioned above.

The size of Vol. 11 (1958) of *Acta Crystallographica* was only slightly larger than the one of Vol. 10 (1957), the respective numbers of pages being 907 and 874. However, the December issue of the 1957 volume, comprising 146 pages, was completely devoted to the Fourth General Assembly and International Congress, which was held in Montreal in July of that year. The abstracts of all papers presented at the Congress and the subsequent Symposia were published in that issue. This explains the fact that the number of 152 articles published in Vol. 11 exceeds considerably the 133 articles which were published in Vol. 10. On the other hand, however, Vol. 11 only contained 73 short communications, which is less than for any of the volumes which have appeared since 1953.

##### *Commission on Structure Reports*

Volume 14 of *Structure Reports*, the supplementary volume and cumulative index for 1940–1950, was scheduled for publication in December 1958. Though a slim volume (viii+215 pages), it contains much difficult typographical matter, and checking and proofreading have taken longer than originally planned. It actually appeared in February 1959.

The typescript of volume 16 (1952) is nearly complete, and the Metals section is in proof. The typescript of the Metals section of volume 17 (1953) is ready, except for a final checking, but the Inorganic and Organic sections are less advanced.

Discussion of reports on apparatus and techniques has continued within the *ad-hoc* Committee on Apparatus and Technique Reports, and also within the Commissions on Crystallographic Apparatus and on *Structure Reports*. It was felt that review papers were preferable to formal abstracts. The *ad-hoc* Committee has drafted a recommendation for submission to the Executive Committee at its meeting in 1959.