

Book Reviews

Works intended for notice in this column should be sent direct to the Book-Review Editor (R. F. Bryan, Department of Chemistry, University of Virginia, McCormick Road, Charlottesville, Virginia 22901, USA). As far as practicable, books will be reviewed in a country different from that of publication.

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Crystallographic computing 5: from chemistry to biology. (IUCr Crystallographic Symposia No. 5.) Edited by D. MORAS, A. D. PODJARNY and J. C. THIERRY. Pp. xiv + 479. Oxford: International Union of Crystallography/Oxford University Press, 1991. Price £40.00. ISBN 0-19-855384-6.

This International School on Crystallographic Computing was held at the Bischenberg Congress Center, near Strasbourg, from 29 July to 5 August 1990. According to the preface, this was 'the twelfth such school organized since 1960 under the auspices of the IUCr Commission on Crystallographic Computing'. Like others in recent years, it was held as a satellite meeting to an IUCr Congress, this one the XVth in Bordeaux. Again, as for the others, the papers presented at the meeting are now published in book form: a proceedings of a sort. This one contains 35 papers and 20 abstracts of posters.

In earlier years, the 1960s for example, when the practice of crystallography on computers was developing, these meetings served to bring together the current expertise to reveal, discuss, evaluate and dispute improvements in procedures and optimum methods for computation. As the practice of crystallography on computers has matured (and grown almost to exclude other forms of practice) and as crystallographic practitioners have grown in number and diversified, the principal purpose of these meetings has come to be to train younger crystallographers in the current methods of crystallographic computation and to provide hands-on workshop experience under the tutelage of experts. In both respects, in fact, recent meetings continue an excellent record of service and achievement.

The publication of papers presented at a School of Crystallographic Computing is meant, it seems, to serve several purposes. One appears to be to serve simply as a repository of notes of lectures presented at the school. This is a lesser purpose, I believe. Another is as a reference work, documenting the latest in computational advances. Still another is as a forum for more detailed or more explanatory presentations of difficult subjects. Yet another might be as an organized discourse on a topic of current interest. These are all higher purposes in my view. At one time or another, publications of papers presented at these schools have served some or all of these roles simultaneously.

The emphasis of the Bischenberg meeting was almost exclusively on crystallographic applications to structure studies of macromolecules of biological interest and the book mirrors that emphasis. Not all of the topics of current interest were covered; however, those covered, and they were the majority, received careful attention. The sections of the book on data collection and analysis, with emphasis on synchrotron applications, and on refinement, with coverage of molecular-dynamics issues, are two examples. The section on solutions to the phase problem, particularly the subtopics on anomalous dispersion and maximum entropy, is another and especially strong example. With only a few exceptions, the written con-

tributions are carefully crafted to offer the reader new insight, a deeper understanding or a broader appreciation of the import of the subject. Several individual contributions are especially noteworthy in a field of papers of very high quality: those of Hajdu and co-workers on Laue applications, of Roth on phasing at low resolution and of Bricogne on maximum entropy. I recommend the book as a solid contribution to the crystallographic literature and as of special interest to macromolecular crystallographers. I also compliment the organizers and editors for the work they did to make both the school and the book successful.

The strength of this book comes from the contributions that make it more than a compendium of lecture notes, although not all the contributions do so. This is an expensive book and it can appear disappointing at first glance if one of the lesser contributions is encountered. I strongly urge the reader to take a second look in this case. But I wonder if it is worthwhile continuing to include contributions whose only purpose seems to be to provide a superficial outline of a subject. This does not seem fair to the majority of the authors who have worked hard to provide value to the readers, or to the readers, the majority of whom must seek more than sketchy outlines of lectures they did not attend. The Thirteenth School on Crystallographic Computing is planned for 1994. Perhaps it is time for the IUCr Book Series Committee to conspire with the organizers of the School and the editors of *Crystallographic Computing 6* to end the automatic publication of lecture notes and to eliminate papers or topics that do not provide value. This would allow the editors to concentrate contributions in one or two areas so as to maximize the impact in terms of depth of coverage, insight, discourse and, if you please, synergy.

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Kristallphysik und Symmetrie. By I. S. ZHELUDEV. Pp. 224. Berlin: Akademie Verlag, 1990. Price £10.00. ISBN 3-05-500688-7.

This book is a German translation of a Russian text originally published in 1987. It provides an interpretation of some of the phenomena of crystal physics in terms of symmetry.

The opening chapters give a very full account of symmetry groups, including those not normally discussed in textbooks on the subject. Thus, for example, the sphere with mirror planes is discussed separately from that in which those elements have been removed, and the rotating cylinder and cone are similarly distinguished from their stationary counterparts.