

## 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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**Correlations, transformations, and interactions in organic crystal chemistry.** (IUCr Crystallographic Symposia No. 7.) Edited by D. W. JONES and A. KATRUSIAK. Pp. xiii + 325. Oxford: International Union of Crystallography/Oxford University Press, 1994. Price £50.00. ISBN 0 19 855826 0.

This book is the proceedings of the eighth in a series of relatively small crystallographic symposia sponsored by the Adam Mickiewicz University under the leadership of the late Professor Zygmunt Kałuski. It contains 20 papers divided into four sections. Despite a valiant attempt by one of the editors to introduce a unifying theme, the papers are a motley crew. Some are mini-reviews of methods, some describe research on specific compounds or types of compounds. They vary in level of sophistication, in length and typography. Few would be accepted in the refereed journals of the IUCr without major revision.

Part I contains three papers: powder diffraction by synchrotron X-rays and pulsed neutrons; a review, growing crystals *in situ*, useful tips; molecular motion in crystals, a popular essay.

Part II contains three papers: solid-state isomerization, a long paper with examples which introduces the concept of the *reaction cavity*; proton transfer reactions; transformations and motion in 1,3-cyclohexanediones.

Part III is concerned with structure correlations and structure-activity relationships. It contains three mini-reviews with examples and one relating to benzeneselenazoles.

Part IV is concerned with conformation, packing and bonding. Two papers are concerned with hydrogen bonding and salt bridges. The remainder report the results of specific studies: cytidinium and 2-deoxycytidinium salts; tartaric acid esters and amines; ribofuranosyl nucleotides and related

imidazoles; superflexible silahydrocarbons; 6-methyl uracil; some metal aldoxides and oxoaldoxides.

This is not a book to be read from cover to cover; rather it is a useful reference if one of the topics happens to be of interest to the reader. Most of the review papers have material that has appeared previously and the substance of the research papers will surely be published elsewhere. For this reviewer, it raises this question: Why burden our over-extended library budgets with one more book? The great advantage and principal purpose of these small meetings is to provide the opportunity to meet fellow crystallographers and have interesting and often productive conversations. The best science takes place outside the lecture halls. This is particularly true in this case where ten of the contributors were Russian crystallographers and 13 were from Poland – colleagues we don't see so often.

The last chapter 'Whither organic crystallography?' is the report of a panel discussion which seems to be concerned with whether organic X-ray crystallography will become extinct, as has Crystallometry. The importance of a knowledge of the atomic structure of matter as a start for understanding properties and function makes this unlikely. The present advances in automation have made it possible for organic chemists to do their own crystal structure analyses with only a small chance of embarrassment. At the same time, however, crystallographers can use the methods developed by spectroscopists to study problems peculiar to the crystalline state and by theoreticians to predict structure. What we lose on the roundabouts, we can gain on the swings.

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**Crystal structure analysis for chemists and biologists.**

Edited by JENNY P. GLUSKER, MITCHELL LEWIS and MIRIAM ROSSI. Pp. xviii + 854. New York: VCH Publishers, Inc., 1994. Price \$69.95. ISBN 0-89573-273-4.

There have been some landmark events in the history of the publication of books on crystal structure analysis, in which attention has been focused on molecular (or organic)

rather than inorganic structures. Each book, in many ways, represented the 'bible' for a whole generation of practitioners, still holds a place in their hearts, and, most likely, continues to influence their scientific thinking even though events and other books have overtaken it. At the risk of exhibiting my own prejudices, and exposing myself to considerable criticism, I would say that the first in this category was *Organic Crystals and Molecules*, which resulted from the Baker Lectures that J. M. Robertson delivered at Cornell in 1951. The standard during the late 50's and most of the 60's was Lipson & Cochran's *The Determination of Crystal Structures* (in three