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Crystallography in North America. Edited by DAN McLACHLAN JR and JENNY P. GLUSKER. Pp. xii + 479. New York: American Crystallographic Association, 1983. Price US\$50.00.

This book has been gestating since 1976, inspired by the upsurge in the interest in history generated by the bicentennial celebrations in the US. Finally, after much discussion, in mid-1979 Dan McLachlan agreed to edit a history book for American crystallographers, the book to be divided into two parts: historical discourses by 'expert authors', and reports by past-presidents of the ACA on the important events occurring during their terms of office. With the aid of an editorial committee and somewhat later the addition of Jenny Glusker as joint editor, the task was almost accomplished at the time of Dan McLachlan's death on 3 December 1982; the book begins sombrely with two memorials to him, by Jenny Glusker and his son Dan H. McLachlan. With a foreword by Linus Pauling and nearly one hundred individual contributions it is a difficult book to review. In particular, if a contribution is not mentioned it does not indicate that it is of inferior quality, but that the reviewer's interests lie elsewhere – and that space in *Acta* is not unlimited. A notable feature is the glossy section of photographs, compiled by S. C. Abrahams, of the great and the not-so-great in poses both formal and informal.

The outcome is not the neat dichotomy planned. Instead, there are seven parts. The first is simple: a straightforward *Overview of crystallography in North America* by Clifford Frondel, beginning with the purchase of a contact goniometer by Harvard University in 1797 and ending with the gradual supersession of classical crystallography by X-ray crystallography in the twenties and thirties. The second part contains twenty-odd *Accounts of some crystallographic laboratories*, each interesting in itself, but lacking any connecting thread. The longest are those from industry; powder diffractionists may agree with this space allocation, but do structural crystallographers? (The lack of connectivity, here and in other parts, can be remedied by the reader; there are extensive indexes, amounting to sixty-three pages.) Dead, but not living, past-presidents come into their own in the third part, with nine appreciations.

The fourth part, *Organizations of crystallographers*, is in many ways the most interesting. The tortuous deliberations that led from the National Research Council Committee on X-ray and Electron Diffraction, the American Society for X-ray and Electron Diffraction, and the Crystallographic Society of America to the American Crystallographic Association (official birthday 1 January 1950) are described in some detail; UK crystallographers, recently exposed to the formation of the British Crystallographic Association, will read of them with a wry but sympathetic smile. The birth of the International Union of Crystallography is also described. This came into existence at the First International Congress of Crystallography (held in Cambridge, Massachusetts) in August 1948, but was conceived in London two years earlier, at the time of the first post-war international meeting of crystallographers, organized by the X-ray Analysis Group of The Institute of Physics. The account of this meeting is one of several contributions by Dan McLachlan. Five living ACA presidents have their accounts in this part. As I am reviewing a collection of

recollections, perhaps I may add two of my own. German crystallographers were represented, and von Laue was fêted. There was a strong undercurrent of resentment at their presence, particularly from participants from countries that had suffered from occupation, and at the dinner at which von Laue spoke I found myself surrounded by murmurs of disapproval – I trust inaudible at the VIP table. However, they were there, and crystallographers can take some credit for beginning the process of reconciliation within months of the cessation of hostilities; Germans and their allies were excluded from international scientific meetings for a decade or more after 1918. The other memory is frivolous: I was greatly impressed by Dan's festoon of equipment that enabled him to photograph the proceedings at the Royal Institution under normal lighting conditions.

The fifth part is *Apparatus and methods*, and again the longest contributions deal with powder techniques, though direct methods of structure determination and electron microscopy are not overlooked. The sixth part, *Internal properties of matter*, is a miscellany. I looked forward with particular interest to *Some statistical aspects of crystal symmetry* (S. B. Hendricks), thinking that I should be introduced to a branch of crystallographic statistics not treated in recent microsymbiosia, but was temporarily disappointed to find that the topic was in fact the various types of disorder within crystals. The final part, *Applications to various sciences*, contains twenty-two papers, on subjects ranging from glass through the usual classes of compounds to biological materials like teeth, calculi and virus.

Those who ordered the book at the pre-publication price of \$25.00 may congratulate themselves. The production is good (with a little reservation about the muddy appearance of some of the figures and photographs), but not up to the standard of Ewald's *Fifty years of X-ray diffraction*. Misprints are few ('Bijvoit' is regrettable). In spite of the size and length of the book, one feels vaguely dissatisfied with many of the papers. With relatively few exceptions, the contributors have not been allowed, or have not allowed themselves, sufficient space to do justice to their topics.

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Materials science of the earth's interior. Edited by ICHIRO SUNAGAWA. Pp. xv + 653. Tokyo: Terra Scientific Publishing Co.; Dordrecht: D. Reidel Publishing Co., 1983. Price Dfl 340.00, US \$120.00.

This collection of 33 research articles ensued from a cooperative research project of the Ministry of Education, Japan, 1978–1980. It is the first of a new series on *Materials Science of Minerals and Rocks*, and is based on a special issue in Japanese of the *Journal of the Japanese Association of Mineralogists, Petrologists and Economic Geologists*. Topics of particular interest to crystallographers are: *silicates and glasses* (computer simulation; radial distribution functions for molten $\text{CaAl}_2\text{Si}_2\text{O}_8$ and $\text{NaAlSi}_3\text{O}_8$; Raman spectra);