is of the form

$$b = b_0 + \Delta b' + i\Delta b'' = b' + i\Delta b'' .$$

b_0 is the potential term arising from hard-sphere scattering, and $\Delta b'$, $\Delta b''$ are the real and imaginary contributions from resonance scattering. For normal atoms (N), $\Delta b''$ is zero.

Thus a P_c map will contain $A-A$, $A-N$ and $N-N$ vectors with peak heights proportional to $b_A'^2 + \Delta b_A''^2$, $b_A' b_N'$, $b_N' b_N'$, respectively and will be as difficult to interpret as the ordinary Patterson function for normal scattering. On the other hand, the P_s map has only $A-N$ vectors with peak heights $+\Delta b_A'' b_N'$ at $\mathbf{U}_{AN}$ and $-\Delta b_A'' b_N'$ at $\mathbf{U}_{NA}$. In the X-ray case, since all the atoms have scattering factors with positive sign, P_s will contain clusters of peaks around the A atoms which are either positive or negative in sign and can be deconvoluted. For neutron scattering, the scattering amplitudes can be both positive and negative and so there will now be mixed clusters containing both positive and negative peaks, which for high overlap may obscure some of the vectors. Thus the P_s synthesis will be of limited application in neutron diffraction. However, if intensities of Bijvoet pairs are recorded at two wavelengths, λ_1, and λ_2, such that $b_A'(\lambda_1) = b_A'(\lambda_2)$ and a difference map plotted of $\Delta P_c = P_c(\lambda_1) - P_c(\lambda_2)$, then the $A-A$ vectors can be easily picked out. For $b_A'(\lambda_1) = b_A'(\lambda_2)$, the equations above show that $A-N$ vectors will vanish as well as the $N-N$ vectors in the ΔP_c Patterson. The only vectors remaining are $A-A$ with peak heights proportional to $\Delta b_A''^2(\lambda_1) - \Delta b_A''^2(\lambda_2)$.

The condition $b_A'(\lambda_1) = b_A'(\lambda_2)$ can be achieved readily in neutron diffraction as can be seen from Fig. 1, which gives the wavelength dependence of $\Delta b'$ and $\Delta b''$ for ^{149}Sm (Dale & Willis, 1966). Suitable values of λ_1 and λ_2 for ^{113}Cd and ^{149}Sm are 0·75, 0·90 Å and 1·07, 1·32 Å respectively, but other combinations are also possible. Both λ_1 and λ_2 lie well within the useful wavelength range for neutron diffraction. For one wavelength, $\Delta b_A''$ is large and for the other wavelength it is small, thus giving a large peak height for the $A-A$ vectors.

References

DALE, D. H. & WILLIS, B. T. M. (1966). AERE-R5195.

OKAYA, Y. & PEPINSKY, R. (1961). *Computing Methods and Phase Problems in X-ray Crystal Analysis*, p. 273. Oxford: Pergamon Press.

SINGH, A. K. & RAMASESHAN, S. (1968). *Acta Cryst.* B**24**, 35.

Notes and News

Announcements and other items of crystallographic interest will be published under this heading at the discretion of the Editorial Board. The notes (in duplicate) should be sent to the General Secretary of the International Union of Crystallography (G. Boom, Laboratorium voor Fysische Metaalkunde der Riiksuniversiteit, Universiteitscomplex Paddepoel, Groningen, The Netherlands). Publication of an item in a particular issue cannot be guaranteed unless the draft is received 8 weeks before the date of publication.

International Union of Crystallography

Appointment of Executive Secretary

At their meeting of 29–30 June 1968, the Executive Committee of the International Union of Crystallography decided that a full-time salaried Executive Secretary should be appointed as soon as possible and applications were invited shortly afterwards. The decision was taken after discussions of reports by the (Honorary) General Secretary and the (Honorary) Treasurer, from which it was clear that the volume of daily work made it impossible for them, or indeed any successors, to continue with the present manner of operation. The Executive Secretary is to take over the day-to-day administration and will thus relieve the Honorary Officers of much of their work. The establishment of the new post is subject to confirmation by the Eighth General Assembly in August 1969.

The Executive Committee is glad to announce the appointment of Dr J. N King as Executive Secretary of the Union.

Dr King is British and was born in 1937. He studied physics at Imperial College, London, where he took his B.Sc., M.Sc. and Ph.D. (solid state physics) degrees. He went to Australia in 1963, where he worked on the preparation of thin metal films and their examination by electron diffraction and electron microscopy, at the Aeronautical Research Laboratories, Melbourne.

Dr King was Secretary of the Organizing Committee of the International Conference on Electron Diffraction and the Nature of Defects in Crystals, Melbourne 1965, which was sponsored jointly by the Union and the Australian Academy of Science, with the support of the Commission on the Solid State of IUPAP. He returned to England in September 1968.

Combined office accommodation is to be found in Chester, England, for the Executive Secretary and the Union's Technical Editor, Mr S. A. Bryant. Until further notice all correspondence for the Technical Editor should continue to be addressed to his present office at 1 Stanley Place, Chester, England.

Dr King started work on 1 February 1969, and will be visiting the General Secretary and the Treasurer before taking over the daily administration of the Union. Correspondence should *not* be directed to Dr King for action in his capacity as Executive Secretary until notice is given. However, it will be appreciated if information copies of appropriate correspondence are sent to Dr King at the Technical Editor's present address.

International Union of Crystallography

Supplement to *Acta Crystallographica*, Section A

The Abstracts of the Communications to the Eighth International Congress of Crystallography and Topical Meetings to be held in the U S.A. in August 1969 will be published as part S3 of *Acta Crystallographica*, Section A. It is hoped that this Supplement will be available in May 1969. It will be distributed free of charge not only to subscribers to Section A, but also to those subscribers to Section B and to the *Journal of Applied Crystallography* who do not subscribe to Section A.

International Union of Crystallography

Structure Reports

From time to time the Commission on *Structure Reports* requires new members to act as Co-editors for the production of volumes of *Structure Reports*, and also people who are willing to assist with the writing of critical reports for the Co-editors. Anybody who has an interest in assisting with this work of critical assessment and reporting of structural data, and maintaining the Union's bank of structural data in *Structure Reports* is invited to communicate with the General Editor: W. B. Pearson, Division of Pure Physics, National Research Council, Ottawa 7, Canada.

A Co-editor assumes responsibility for preparing the manuscript of either the Metals, Inorganic or Organic sections of *Structure Reports* for a single year, writing the reports, arranging for and coordinating the work of reporters who assist him/her, *etc.* Lists of papers to be reported are produced by the General Editor. The Union pays honoraria for the work, which contributes to the cost of the volumes, the monies being recovered by sales.

International Union of Crystallography

Structure Reports

Volume 24 of *Structure Reports*, covering the literature for 1960, was published in November.* The price is (Netherlands Guilders) *f*140 (or at present rates of exchange $39 or £16.8*s.*).†

Full details of various price reductions for standing orders and of reduced personal prices for *Structure Reports*, were given in *Acta Cryst.* (1968), Vol. A**24**, page 703.†

* Volume 26 (1961) has now also been published.

† Since this note was printed, it has become necessary to raise prices to customers in the Netherlands owing to the introduction of a turnover tax.

Orders

Structure Reports is published for the International Union of Crystallography by A. Oosthoek's Uitgevers Maatschappij N.V., Domstraat 11–13, Utrecht, The Netherlands. Orders can be placed with Oosthoek's or with any bookseller. All prices are post free from Oosthoek's.

Payments to Oosthoek's in U.S. dollars or pounds sterling may be made by cheque, which will be paid in to Oosthoek's account at the Chase Manhattan Bank, New York 15, N Y., or the British Linen Bank, London, E.C.2., respectively. No problems of U.S. or U.K. currency control arise with such transactions.

Orders from the North American area can also be placed with Polycrystal Book Service, P.O. Box 11567, Pittsburgh, Pa. 15238, U.S.A.

An informative prospectus for *Structure Reports*, showing specimen pages and giving price details for all volumes, can be obtained free of charge from Oosthoek's.

International Union of Crystallography

International Tables for X-ray Crystallography

Volume III (*Physical and Chemical Tables*) has now been reprinted and is again available from the publishers, The Kynoch Press, Witton, Birmingham 6, England. The price is £6·10*s.* per copy. A preferential price of £3·15*s.* is available for *bona fide* crystallographers, who must give an undertaking when purchasing that the volume is for their *personal use only*. The prices for Volume I (*Symmetry Groups*) and Volume II (*Mathematical Tables*) are the same.

International Summer School on Crystallographic Computing

4–12 August 1969, Ottawa, Canada

The Commission on Crystallographic Computing of the International Union of Crystallography is organizing a School on crystallographic computing to be held in Ottawa from 4 to 12 August 1969. The aims of the school will be to survey in some detail the mathematical procedures in crystal structure analysis, and the means of increasing the effectiveness of the fast digital computer in this field. The program will include lectures by invited speakers and a very limited number of short contributions by the participants.

The school is intended for practising and post-graduate crystallographers who have some programming experience, and who are familiar with a version of FORTRAN, ALGOL, or an equivalent language. Those interested in receiving further details should immediately contact: Dr F. R. Ahmed, Division of Pure Physics, National Research Council of Canada, Ottawa 7, Ontario, Canada.