

International Union of Crystallography

Report of Executive Committee for 1975

Tenth General Assembly and Congress

By invitation of the Stichting voor Fundamenteel Onderzoek der Materie met Röntgen- en Elektronenstralen (FOMRE), the Tenth General Assembly and International Congress of Crystallography were held at the International Congress Centre RAI, Amsterdam, the Netherlands, 7–15 August 1975. A report, including a detailed report of the proceedings of the General Assembly, has been published in this journal [*Acta Cryst.* (1975). A32, 691–745] and will be sent to the National Committees for Crystallography.

The meetings were attended by 1490 scientists, of whom 144 were from the Netherlands and the remainder from 42 other countries. Professor Caroline MacGillavry presented the Congress Discourse, entitled *Order and Beauty*, at the Opening Ceremony. There were seven General Lectures, approximately 360 papers presented as oral contributions and approximately 560 papers presented at poster sessions. One of the General Lectures was given by Professor P. P. Ewald on the history of the Union and this was followed by a general discussion in which many who had attended early meetings took part. (The text of Professor Ewald's lecture will be published in the January 1977 issue of *Acta Crystallographica*, Section A.) The Commissions of the Union organized 15 Open Meetings. All abstracts submitted were included in the Congress book of Collected Abstracts, which was reproduced as a Supplement to *Acta Crystallographica*, Section A. Exhibitions of commercial and non-commercial crystallographic equipment, scientific books, photographs and drawings, models of protein structures, and publications of the Union were organized. An extensive programme of excursions and social events was arranged. The Congress was organized excellently under the direction of Professor D. Feil and Dr H. M. Rietveld, Chairman and Secretary/Treasurer of the Organizing Committee, and Professor A. Vos, Chairman of the Programme Committee.

The General Assembly met on the afternoon of Thursday 7 August, the evenings of Friday 8 August and Tuesday 12 August, and the afternoon of Friday 15 August. The important but routine business of the Assembly included the receipt of the triennial financial report and the reports of the Executive Committee, the Commissions and the Union representatives on other bodies since the Ninth General Assembly (1972), and the election of new Officers of the Union, Chairmen and members of Commissions and Union representatives. A list of people elected is given in Annex III to the published report of the General Assembly [*Acta Cryst.* (1975). A32, 740–742]. The Assembly set the unit contribution for the years 1976–1978 inclusive at U.S. \$220. In spite of this substantial increase, reduced income from other sources meant that the Union's financial support of scientific meetings could probably not be maintained at its present level. There was a general discussion on the conditions of service of Editors of Union publications; this was followed by minor changes in the Statutes which should permit modifications of the present practice if, in future, these should be desired. Changes were made to the By-

Laws, to allow observers normally to be present at all sessions of the Assembly. Concern was expressed by some delegates about the present timetable and procedure for elections, and a Sub-Committee was set up to scrutinize the present Statutes and By-Laws. Consideration of the application from Bangladesh to join the Union had to be deferred, because some basic details of the application were still not available. The creation of the Commission on Charge, Spin and Momentum Densities, set up *ad interim* in 1972, was confirmed. The General Assembly and the Executive Committee endorsed the guidelines adopted by the 15th ICSU General Assembly, in 1974, regarding the free circulation of scientists and the sponsorship of meetings. The report of the Working Party on Information Services was received. It made several recommendations for improving the efficiency and minimizing increases in costs of the publications of the Union.

The display of Union publications at the Congress was dominated by the large number of volumes of *Structure Reports* which had been published in recent months. By the end of 1975 this series would be completely up to date and the General Editors, Dr W. B. Pearson and Professor J. Trotter, together with the section editors and the reporters, were praised for this outstanding achievement.

The General Assembly was pleased to accept an invitation from the Polish Academy of Sciences to hold the Eleventh General Assembly and Congress in Poland in mid 1978. Dr K. Łukaszewicz was appointed Chairman of the Programme Committee for the Eleventh Congress.

The Executive Committee met for several days before, and most days during, the Congress, mainly to deal with matters directly relating to the business of the General Assembly and the work of the Commissions.

Other Meetings

In addition to its own Congress, the Union sponsored the following meetings, schools and courses which were held during 1975: Fourth International Symposium on the Organic Solid State, Talence, France 17–19 July; Summer School on Charge, Spin and Momentum Density, Coventry, England, 27 July–2 August; International Summer School on Crystallographic Computing, Prague, Czechoslovakia, 28 July–5 August; Neutron Diffraction Conference, Petten, The Netherlands, 5–6 August; Third International Conference on Vapour Growth and Epitaxy, Amsterdam, The Netherlands, 18–21 August; Summer School on X-ray Dynamical Theory and Topography, Limoges, France, 18–26 August; Course on Crystal Growth, Erice, Italy, 30 August–7 September; Third European Meeting on Ferroelectricity, Zürich, Switzerland, 22–26 September.

Executive Committee

The membership of the Executive Committee, including the new members elected by the General Assembly, is as follows:

President: Professor A. Magnéli (Sweden); Vice-President: Professor B. K. Vainshtein (USSR); General Secretary and Treasurer: Professor S. E. Rasmussen (Denmark); Immediate Past President: Professor Dorothy Hodgkin (UK); Ordinary Members: Dr F. R. Ahmed (Canada); Professor E. F. Bertaut (France); Professor K. Kuchitsu (Japan); Dr K. Łukasiewicz (Poland); Dr S. Ramaseshan (India); Professor D. P. Shoemaker (USA). Dr J. N. King continues as Executive Secretary.

Resignations and Appointments

There were several changes during the year to the Editorial Board for the journals. L. H. Jensen and D. Mootz resigned as Co-editors of *Acta Crystallographica*, A. Guinier, R. Uyeda and E. R. Wölfel resigned as Co-editors of the *Journal of Applied Crystallography* and M. M. Woolfson resigned as Book-Review Editor. Professor Guinier was Editor of the *Journal of Applied Crystallography* from its creation in 1968 until the end of 1969, whilst Professor Uyeda and Professor Wölfel had been Co-editors since the journal started. Professor Woolfson had been Book-Review Editor since 1968. The Executive Committee thanked all these editors for their services and approved the following new appointments: F. R. Ahmed, G. Allegra, H. Bärnighausen and E. C. Lingafelter as Co-editors of *Acta Crystallographica*, J. B. Cohen as a Co-editor of the *Journal of Applied Crystallography* and J. H. Robertson as Book-Review Editor.

On the recommendation of the Sub-Committee on Staff, Establishment and Salaries, the Executive Committee approved several changes to the technical editing staff in Chester, in consequence of the retirement of S. A. Bryant as Technical Editor at the end of 1975 and the resignation of R. S. Daykin as an Editorial Assistant earlier in the year. Susan Wallis and M. H. Dacombe were appointed as Editorial Assistants, to start on 1 September and 1 October respectively. D. W. Penfold was appointed Technical Editor and J. E. Derry Assistant Technical Editor from 1 January 1976, from which date the Executive Secretary, J. N. King, headed the entire Chester Office of the Union on behalf of the General Secretary and Treasurer.

Publications

Volume 31 of *Acta Crystallographica* and Volume 8 of the *Journal of Applied Crystallography* were published in 1975. Many volumes of *Structure Reports* were published during the year. Volume 28 (for 1963) was the last volume to be published before each annual volume was split into two parts. Volumes 30A, 31A, 32A, 33A, 34A, 35A, 37A, 38A and 39A (covering metals and inorganic compounds from 1965 to 1973) were also published. Volumes 34B, 37B, 38B and 39B (covering organic compounds for 1969 and 1971–73) were published in December, too late for their sales income or printing expenses to be included in the 1975 accounts. Volume 36, the cumulative index covering the years 1961–1970, will be published in 1977. Volume 6 (Bib-

Table 1. Survey of the contents of the Union journals
Acta Crystallographica

Vol.	Year	Number of pages*	Articles		Short Communications		Short Structural Papers	
			Number	Average length	Number	Average length	Number	Average length
A26}	1970	702}	112}	6.0}	32}	1.7}	—	—
B26}		2138}	301}		54}		—	
A27}	1971	700}	103}	6.3}	24}	1.4}	—	—
B27}		2494}	367}		67}		—	
A28}†	1972	985}	107}	5.9}	35}	1.2}	—	—
B28}		4661}	584}		75}		4	
A29}	1973	774}	118}	6.0}	26}	1.3}	—	—
B29}		3758}	457}		56}		74	
A30}	1974	874}	135}	6.0}	37}	1.2}	—	—
B30}		3812}	470}		32}		131	
A31}‡	1975	1218}	140}	6.1}	31}	1.4}	—	—
B31}‡		4162}	446}		38}		230	

Journal of Applied Crystallography

Vol.	Year	Number of pages*	Articles		Short Communications		Crystal Data	
			Number	Average length	Number	Average length	Number	Average length
3	1970	552	79	6.1	26	1.8	2	1.1
4	1971	534	74	5.6	23	1.7	8	1.2
5	1972	448	69	4.9	27	1.6	12	1.2
6	1973	502	62	5.5	18	1.3	13	1.7
7§	1974	638	103	5.4	10	1.5	18	1.4
8	1975	698	98	5.8	17	1.7	25	1.5

* Excluding indexes.

† Volume A28 includes 303 pages of abstracts communicated to the Kyoto Congress.

‡ Volume A31 includes 338 pages of abstracts communicated to the Amsterdam Congress.

§ Volume 7 includes 144 pages of papers and abstracts presented at the Third International Conference on Small-Angle Scattering, Grenoble, 1973.

|| Volume 8 includes 149 pages of papers and abstracts presented at the International Discussion Meeting on Studies of Lattice Distortions and Local Atomic Arrangements by X-ray, Neutron and Electron Diffraction, Jülich, 1974.

liography 1973–74) in the *Molecular Structures and Dimensions* series was also published in 1975.

Adhering Bodies

The latest list of Adhering Bodies of the Union, the memberships of the National Committees for Crystallography and the names and addresses of their secretaries are included in Annex IV to the report of the Tenth General Assembly and Congress [*Acta Cryst.* (1976), A32, 743–745].

Work of the Commissions

Commission on Journals

During 1975 the Commission on Journals produced Volume 31 of *Acta Crystallographica* and Volume 8 of the *Journal of Applied Crystallography*. The number of pages submitted for publication shows no sign of decreasing. The number of pages in Section A of *Acta Crystallographica* was 880, in Section B 2944 and in the *Journal of Applied Crystallography* 698, plus, in each case, indexes and, in the case of *Acta* Section A, 338 pages of abstracts of the Tenth Congress. All show a slight increase over 1974. The increase of Section B would have been greater but for the limitation in size decided on by the Executive Committee, and a considerable number of papers had to be held over to January and February 1976. An analysis of the contents of the journals for the last six years is given in Table 1. The average length of articles has decreased steadily over recent years.

The Commission has continued its investigation of new production methods. Photocomposition of the *Journal of Applied Crystallography* was begun in October, and has proved satisfactory, except for some initial difficulties in proof correction. The possibility of using this method, possibly with computer control, for *Acta Crystallographica* is being investigated.

The Commission held a series of closed meetings in Amsterdam, and also arranged an open meeting of its own and participated in a joint open meeting with other Commissions. The main business of the open meeting of the Commission on Journals was reports from the Working Group on Production Methods (R. A. Young) and the Working Group on Publication of Structures (A. J. C. Wilson).

Commission on Structure Reports

Fourteen volumes were published in 1975, so that *Structure Reports* is now complete up to the end of 1973 (except for the Ten-Year Index for 1961–1970, Volume 36, which is being compiled at present). This brings the series effectively up to date, since a lag of at least 18 months seems inevitable between the end of a calendar year and the appearance of the *Structure Reports* volume for that year, to allow for delay in the actual availability of the original journals, preparation of the reports, and publication time.

As forecast in last year's report, the manuscripts for Volume 40A (Metals and Inorganic Compounds for 1974) were completed in mid 1975. The typescript for photo-offset printing was delivered to the publisher at the Amsterdam meeting, and the volume should appear in mid 1976. The manuscript for the Organic Compounds Section (40B) has just become available; it is very large, and the amount of work involved in producing it is such that it must inevitably take longer than the Metals and Inorganic Compounds Sections. Typing and proof-reading will require about six months, with about another six months for publication, so

that it will probably appear in early 1977. It appears that this will probably be the normal timetable – fairly rapid production of the Metals and Inorganic Compounds Sections, but a longer delay with the Organic Compounds Section, at least with the present editorial set-up, production methods, and funds available.

Commission on International Tables

D. S. Fokkema continued to work on the programs for both the calculation of the data and the typesetting procedures for Volume B (*Direct Space*) of the new edition of *International Tables for Crystallography*. During the Tenth Congress, the Commission on *International Tables* held about six closed meetings during which the content and lay-out of the new Volume B were discussed thoroughly, based on Mr Fokkema's latest computer test runs. As a result, a number of changes both in the arrangement and the lay-out of the material were adapted and were incorporated in the computer programs. M. J. Buerger completed the new drawings for the triclinic, monoclinic and orthorhombic space groups. They consist of four diagrams for each space group.

The Executive Committee agreed that Volume C (*Reciprocal Space*) of the new edition would be published, provided that a research grant could be obtained to cover the salary expenses for the program development for the volume.

The Commission held an open meeting during the Congress, which was well attended. In addition to lectures by various members of the Commission, D. S. Fokkema presented a detailed survey of his procedures for the computer production of the new edition of *International Tables for Crystallography*.

Commission on Charge, Spin and Momentum Densities

During the year the Commission completed several of the projects initiated shortly after it was first set up as an *ad interim* Commission in 1972. The Tenth General Assembly confirmed the creation of the Commission and E. F. Bertaut succeeded R. J. Weiss as Chairman.

The Commission organized an international summer school at Warwick University, in England, on the subject of the determination of electron charge, spin and momentum density distributions. Other projects which came to fruition included the comparison of Compton profile measurements on water which, when collated, unearthed some systematic problems of interpretation; and a survey of different methods of measuring electron momentum density distributions. Reports on both these projects will be published in *Acta Crystallographica* [*Acta Cryst.* (1976), A32, 513–526; 676–690]. Other projects in hand include the analysis of different model calculations of electron density in a variety of solids, and the planning of the Sagamore V conference.

The Executive Committee and the Commission wish to express their thanks to the retiring Chairman, R. J. Weiss, for his efforts which led to the establishment of the Commission.

Commission on Crystal Growth

The Commission endorsed requests for Union sponsorship for several meetings and summer schools on crystal growth or associated topics, held in 1975 or planned for 1976 or 1977. Under its new Chairman, the Commission will continue to follow the aims and activities already ini-

tiated. These include (1) stimulation of fundamental research in the field of material science in space, (2) preparation of a compilation of films on crystal growth, (3) standardization of symbols for use in crystal growth research, (4) development of a convention for relating the etching, piezoelectric and non-linear optical behaviour of certain crystals to their absolute structure and (5) involvement in a solubility data project.

The ties between the Commission and the International Organization for Crystal Growth are referred to under the report of the Union's representative on the IOCG. The Commission intends to develop additional projects, in particular in the fields of characterization and of relationship between morphology and crystal structure, which lie in the region of overlapping interest to the Union and the IOCG.

Commission on Crystallographic Apparatus

The Commission met in Amsterdam during the Tenth Congress. All other matters were attended to through correspondence.

1. *Small-Angle Scattering Absolute Intensity Project* (R. W. Hendricks). Absolute intensity measurements on standard samples of glassy carbon and polystyrene were received from seven laboratories in six countries. Computer processing of the extensive raw data and a variety of statistical intercomparisons of the results were completed. A final draft of an official Commission report is being prepared.
2. *Powder Intensity Project* (P. Suortti and L. D. Jennings). Measurements on a nickel standard sample were completed, and an analysis of the results, together with a critical appraisal of the measurement procedures used in accurate powder intensity determination, is being prepared as an official Commission report.
3. *Single-Crystal Radiation Damage Project - Phase II* (R. Rudman and S. C. Abrahams). Proposals of the systematic study of radiation damage were prepared by three crystallographers (at the invitation of the Commission) and are currently being evaluated by the US National Science Foundation (NSF). The proposals incorporate plans for intensive two-year programmes of research on the effect of radiation damage on crystal structure analysis. Although the Commission has acted as intermediary between the NSF and the principal investigators, it will not receive funds or be actively involved in the proposed research programme.
4. *Accuracy of Intensities Determined Microdensitometrically* (S. Abrahamsson, P. Kierkegaard, G. Lundgren). Announcements of this project have been published in the Union's journals and elsewhere. A series of carefully prepared precession photographs will be measured and analysed in participating laboratories throughout the world. The results will be statistically compared in an effort to correlate the techniques and computer programs used by the participants.
5. *Radiation Safety* (M. Colapietro and R. Rudman). A survey of recommended radiation safety procedures, detectors, calibration, and related matters is being undertaken in response to the increasing development of legal standards and regulations in this area.
6. *Nomenclature Standardization in Small-Angle Scattering* (R. W. Hendricks). An international *ad hoc* committee was appointed by the Commission to consider inconsistencies in current nomenclature, especially between varying notations used in large-angle and small-angle scattering. A preliminary report was presented at the Congress.
7. *Single-Crystal Intensity Measurement Project - Phase II* (A. McL. Mathieson). Preparation of the final report has been delayed, but is expected to be completed soon.
8. *Congress Exhibitions of Non-Commercial Equipment and Visual Aspects of Crystallography* (H. van Koningsveld and R. Rudman). These exhibitions at the Congress were sponsored by the Commission. The winners of the prizes were J. Komrska, J. M. A. Buiscool Toxopeus and B. Watkins.
9. *Anomalous Scattering* (S. Ramaseshan and S. C. Abrahams). The proceedings of the Inter-Congress Meeting on Anomalous Scattering, held in Madrid in 1974, were published as a 540-page hard-cover book. This book, *Anomalous Scattering*, is available from Munksgaard International Publishers Ltd., Nørre Søgade 35, DK-1370 Copenhagen K, Denmark, and from Polycrystal Book Service, P.O. Box 11567, Pittsburgh, Pa. 15238, USA.
10. *Open Commission Meetings at the Tenth Congress*. The following meetings were organized by the Commission:
 - (a) 'Novel Crystallographic Measurements by Use of Solid-State and Position-Sensitive Detectors' (S. Hosoya and R. W. Hendricks);
 - (b) 'Small-Angle Scattering Measurements by X-ray and Neutron Diffraction' (R. W. Hendricks);
 - (c) 'Extinction Corrections, Theory and Experimental Measurement', organized jointly with the Commission on Charge, Spin and Momentum Densities (R. J. Weiss, P. Suortti and S. C. Abrahams);
 - (d) 'Single-Crystal Diffraction Measurements at Controlled Pressures and Temperatures: Present Status and Future Trends', organized jointly with the Commission on Crystallographic Studies at Controlled Pressures and Temperatures (M. Foex and S. C. Abrahams).

The meetings generated intense and lively discussion, indicating that the topics were of immediate interest to a large number of crystallographers.
11. *Future Projects*. The Commission is actively considering initiating a critical study of X-ray film characteristics; the last survey was reported in *Acta Cryst.* (1963). **16**, 1107. Also under consideration are new approaches to the revision of the *Index of Crystallographic Supplies*.

Commission on Crystallographic Computing

In 1975, the Commission met twice at Prague during the period of the International Summer School on Crystallographic Computing, which was held at The Agricultural University in Prague, Czechoslovakia, from 28 July to 5 August. An informal joint meeting of the retiring and proposed new Commission members and consultants was also held at Prague.

The summer school was attended by 239 crystallographers from 28 different countries. This number included 33 invited lecturers and 9 invited contributors, who presented lectures on the following three main topics: (1) structure solving by the direct method; (2) computational aspects of protein crystallography and (3) miscellaneous crystallographic computer applications and techniques. The full texts of nearly all the lectures, bound in three large manuals, were distributed to the participants on arrival at Prague. The revised texts and the discussion have been edited by F. R. Ahmed, K. Huml and B. Sedláček, and are being prepared for publication by Munksgaard Internation-

al Publishers, in book form, under the title *Crystallographic Computing Techniques*. The school was sponsored by Unesco, the Union and several other organizations.

An Open Meeting at the Congress, entitled 'Recent Developments in Crystallographic Computing', included a lively discussion of the software supplied by the various diffractometer manufacturers.

Very little progress has been made with the establishment of a 'bank of trial structures' but the situation is expected to improve in 1976. Because of various difficulties there has also been no progress with the development of additional standard tests for computing. The main decisions taken at the Commission's meeting were to hold the next summer school somewhere in Asia, to continue with the preparation of standard tests, and to maintain the bank of trial structures.

Commission on Crystallographic Data

The main activities of the Commission during 1975 took place during the Congress. Two Open Meetings were arranged, one on 'Powder Data' and the other on 'Crystallographic Information Services' (sponsored jointly with the Commissions on Journals, *Structure Reports*, *International Tables*, Computing and the Working Party on Information Services). Both meetings were well attended and stimulated much discussion.

Two closed meetings were held, at which various topics were discussed. Members agreed to collect details of inorganic structural files in their parts of the world with a view to assessing how these separate collections could be effectively coordinated. In this connection the pros and cons of a standard file format such as FICS-FORM was discussed. I. D. Brown agreed to prepare a check list for authors for submitting papers to non-Union journals. At the request of W. Nowacki it was decided to investigate the feasibility of publishing a bibliography to some 1100 papers on mathematical crystallography.

During 1975 members of the Commission made valuable contributions to the deliberations of the Working Party on Information Services and to the Commission on Journals' Working Party on Production Methods.

Commission on Crystallographic Nomenclature

The Commission on Crystallographic Nomenclature organized one Open Meeting during the Congress. The main item was a discussion of the proposal for a crystallographic dictionary. Short papers were given on the need, the scope and the multilingual problem. Those attending the meeting showed great interest, and gave general approval to the idea of having numbered definitions in English only, with alphabetical lists of crystallographic terms in other languages, followed by the number of the definition in English. This would reduce the size and cost of the dictionary, but the financial problem remains insuperable for the present. There was also a discussion of symbols for molecular symmetry, and brief reports on other nomenclature activities within the Union were presented.

The Commission has continued to participate, through its Chairman, in the work of the IUCr-IMA Joint Committee on Nomenclature.

Commission on Crystallographic Studies at Controlled Pressures and Temperatures

The Commission held two Open Meetings during the Congress. One was entitled 'New Developments for Crystal-

lographic Studies at Extreme Pressures and/or Temperatures - Calibration Methods'. The other, a joint meeting with the Commission on Crystallographic Apparatus, is referred to in the report of that Commission.

Two newly elected members of the Commission, J. P. Traverse and C. T. Prewitt, undertook to discuss with the IUPAC Commission on High Temperature and Refractory Materials problems related to standards for high-temperature work. The IUPAC Commission was interested in the possibility of studies on particular materials which might serve as reference points on a high-temperature scale.

Contact has been maintained with the [US] Office of Standard Reference Data, and several review articles on high pressure and high temperature have been published in the *Journal of Physical and Chemical Reference Data* in the period 1972-1974. The usefulness of initiating a study in different laboratories of high-pressure transition points above 100 kbar is being considered by the Commission.

Commission on Crystallographic Teaching

The Commission organized an Open Meeting on 'Teaching Aids for Crystallography' during the Congress. The dominant theme was that of the special needs of the developing countries. Appeals were made for the Commission to devote special attention to this problem. Discussion of teaching aids and of the *Atlas of Optical Transforms* were also included. The *Atlas*, the final item to be completed under the IUCr-Unesco pilot project on the teaching of crystallography, was published by Bell, London, and Cornell University Press, Ithaca, N.Y., immediately prior to the Congress. The Commission was also involved in the planning of the scientific sessions at the Congress on education and information in crystallography.

The project to publish a series of pamphlets on teaching topics has continued. A summer school will be held in Italy in 1977, and other inter-Congress meetings during other conferences, including the Fourth European Crystallographic Conference at Zürich in 1976. Support for the Summer School has been promised by Unesco. Work has continued on translations of E. A. Wood's book (*Crystals - a Handbook for School Teachers*), and a list of summer schools was prepared.

Commission on Electron Diffraction

The Commission organized two Open Meetings, on 'Surface Crystallography' and on 'Gas Electron Diffraction - Novel Species and Techniques'. At its closed meetings, the Commission discussed its nominations for the new membership of the Commission, as well as its future activities, especially its involvement in the planning of an international meeting to be held in London, 19-22 September 1977, to mark the fiftieth anniversary of the discovery of electron diffraction. A programme committee, which included seven members of the Commission, was established in December.

An informal discussion on symmetry problems in electron diffraction was also held in Amsterdam. Cooperation and exchange of reprints was agreed upon by the laboratories most interested in these problems. During the Congress 76 papers on electron diffraction were presented; 53 on HEED and electron microscopy, 12 on LEED, MEED and surface crystallography, and 11 on gas electron diffraction. A highlight of the Congress was a poster session on direct imaging of atomic arrangements by electron microscopy.

The paper entitled *A Guide for the Publication of Experi-*

mental Gas-Phase Electron Diffraction Data and Derived Structural Results in the Primary Literature, referred to in last year's report, has been revised and has been accepted for publication in *Acta Crystallographica* [*Acta Cryst.* (1976). A32, 1013–1018].

Commission on Neutron Diffraction

The Commission, in cooperation with the Reactor Centrum Nederland, arranged a conference in Petten, the Netherlands, 5–6 August 1975, on new methods and techniques in neutron diffraction. 135 persons from 25 countries took part. The proceedings have been published by the Centrum as RCN Report 234.

The new membership of the Commission, meeting at the time of the Tenth Congress, decided to continue all the projects already in progress. These include the collection of data for neutron scattering amplitudes and for magnetic form factors, the *Magnetic Structure Data Sheets*, the intercomparison of neutron spectrometer performance and the publication of the *Neutron Diffraction Newsletter*.

A new project, involving an intercomparison of thermal parameters obtained by X-ray and neutron diffraction, is being undertaken to analyse systematic discrepancies which have been revealed through the exact measurements required for the X–N diagrams. Crystallographers active in this field are requested to submit their data either to Dr P. Coppens, Chemistry Department, State University of New York, Buffalo, New York 14214, USA, or to Dr T. Koetzle, Brookhaven National Laboratory, Upton, Long Island, New York 11973, USA.

Sub-Committee on the Union Calendar

The Sub-Committee received a number of requests for Union sponsorship and, in most cases, token financial support. Acting on recommendations made by the Sub-Committee, during 1975 the Executive Committee approved sponsorship of the following meetings:

1. Fourth International Symposium on the Organic Solid State (Talence, France, 17–19 July 1975).
2. COSPAR Symposium on Materials Sciences in Space (Philadelphia, USA, 9–10 June 1976).
3. Symposium on Direct Methods in Crystallography (Buffalo, USA, 3–6 August 1976).
4. Sagamore V, on Charge, Spin and Momentum Density (Kiljava, Finland, 16–20 August 1976).
5. Second Europhysical Conference on Lattice Defects in Ionic Crystals (Berlin, BRD, 30 August–3 September 1976).
6. Third European Crystallographic Meeting (Zürich, Switzerland, 6–10 September 1976).
7. Third International Summer School on Crystal Growth (University of New Hampshire, USA, 10–15 July 1977).
8. Fifth International Conference on Crystal Growth (Boston, USA, 17–22 July 1977).
9. Fourth International Conference of Small-Angle Scattering (Gatlinburg, USA, 3–7 October 1977).

Other meetings held in 1975 which received Union sponsorship are listed in the Reports of the Executive Committee for 1973 and 1974 [*Acta Cryst.* (1974). A30, 862 and (1975). A31, 866 respectively]. The Sub-Committee continues to encourage specialist and regional meetings with the aims of distributing opportunities for attendance and discussion, and of relieving pressure on the triennial Congresses of the Union. Organizers of meetings seeking Union sponsorship

should write, as early as possible, to the Chairman of the Sub-Committee, Professor D. P. Shoemaker, Chemistry Department, Oregon State University, Corvallis, Oregon 97331, USA. Unfortunately, severe limitation of the funds available to the Union has necessitated strict restraint in the provision of financial support.

IUCr-IMA Joint Committee on Nomenclature

During 1975 agreement was reached within the Committee on all previously unresolved questions. A final report has been prepared and will be distributed to the parent societies for their consideration. The main features of the report are listed below:

1. Recommended definitions for polytypism, topotaxy, syntaxy, epitaxy, and monotaxy.
2. Recommended usage of *X, Y, Z* and *a, b, c*.
3. Recommended usage of chemical adjectival modifiers in conjunction with mineral names.
4. Recommendations on avoidance of new mineral names for minor deviations in composition, symmetry, optics, or other physical properties.
5. Recommendations on the conditions under which mineral names, rather than structural symbols, should be used to designate polytypes.
6. Recommended policy on retention of existing mineral names for polytypes.
7. Recommended detailed system of structural symbols to specify the exact stacking sequence of layers for a given polytype.
8. Recommended short system of structural symbols to designate a polytype, if the layer sequence is not known or is not critical for the usage intended.

Representatives on Other Bodies

Abstracting Board of the International Council of Scientific Unions

The Abstracting Board held a series of meetings in Brussels from 21 to 27 June. The [US] National Federation of Abstracting and Indexing Services was admitted as an Associate Member. The programme included a symposium on secondary-information transfer for the less developed countries, organized in cooperation with the World Federation of Engineering Organizations and the ICSU–Unesco Joint Project to Study the Feasibility of a World Information Service (UNISIST). Many of the contributions were simply informative, such as 'UNISIST policy and information transfer for developing nations', or 'Improving accessibility to scientific and technical information'. Others were more challenging, such as 'Information requirements of the developing countries of Africa', given by a representative of the Ministry of Education of Kenya. One speaker put forward the interesting view that the main need of a developing country is not greater access to scientific and technical information as such, but to social and economic information that will make possible rational decisions about what agricultural, industrial and medical development is most appropriate for the country. The science and technology necessary for the development can be supplied from outside, once the policy decisions have been made. Much of the existing relevant information is contained in 'fugitive' literature (documents produced by governments and international agencies, duplicated reports issued by research institutions), and is not properly abstracted and indexed. It is

intended that the papers presented at this symposium will be published.

The ICSU AB/CODATA Joint Working Group, with Unesco support, held a further meeting early in 1975, and has produced a report on 'flagging' or 'tagging' of papers containing new data. It is expected that this report will appear in the *CODATA Bulletin*.

Committee on Data for Science and Technology (CODATA) of the International Council of Scientific Unions

The task group on the accessibility and dissemination of data completed its study on the feasibility of establishing a world referral centre for data. The final report to CODATA and Unesco was prepared under the chairmanship of the Union's representative, D. G. Watson. A copy of this report is available for perusal from the Executive Secretary of the Union.

The joint working group of CODATA and the ICSU AB has completed its study on the flagging and tagging of data in the primary and/or secondary literature. The final draft report has been submitted to Unesco.

Plans were formulated for the updating of the *International Compendium of Numerical Data Projects*. The new edition will be produced under the editorship of the Executive Secretary of CODATA and will be issued in parts in the *Bulletin*, each part being concerned with one subject area. Emphasis will be placed on data centres but publications will also be covered, as appropriate. It was decided that the first part should deal with crystallography and the Union's representative, D. G. Watson, has collected the material which is to be included.

Committee on the Teaching of Science of the International Council of Scientific Unions

Activity this year has been largely a consolidation of various plans for the future. One meeting of officers was held in Paris in May and was attended by the Union's representative, C. A. Taylor. The seminar on problems of evaluation in integrated science was held in December at Oxford, immediately before the first General Assembly of the International Council of Associations for Science Education, which is an organization brought into being and sponsored by the Committee. Professor Taylor attended part of the seminar. Although only 70–80 people were present, over 50 countries were represented; the discussions were extremely lively and useful.

Progress is being made on the investigation into teaching and learning strategies in higher education, and an international meeting on the teaching of mathematics for other sciences is being planned. The next full meeting of the Committee will probably be held in London, in May 1976. It will include a special session at which members of the various teaching commissions will be asked to talk about the specific contribution their subject can make in teaching science at school level. The proceedings of a seminar organized by the Committee in Paris in May 1974, entitled *Integration, Coordination or Separation of Sciences at University Level*, have been published and a copy is available for perusal from the Executive Secretary of the Union.

Commission on the Solid State of the International Union of Pure and Applied Physics

On the recommendation of the Commission, sponsorship by IUPAP was provided for four conferences held in 1975, two of these being with financial assistance. The Commis-

sion recommended sponsorship for nine conferences to be held in 1976, but the IUPAP Executive Committee approved sponsorship for only four: Third International Conference on the Properties of Liquid Metals, Bristol, UK; Sagamore V, on Charge, Spin and Momentum Density, Kiljava, Finland (co-sponsored by IUCr); Fifth International Conference on Solid Compounds of Transition Elements, Uppsala, Sweden, and Second International Conference on the Electronic Structure of the Actinides, Wrocław, Poland. This severe limitation of IUPAP sponsorship reflects concern at the proliferation of smaller overlapping conferences and a preference for larger, well-spaced meetings.

The General Assembly of IUPAP, meeting in Munich in September, elected Dr G. Szigeti (Hungary) as Chairman of the Commission and Dr G. K. White (National Measurement Laboratory, CSIRO, Chippendale, NSW 2008, Australia) as Secretary for the period 1975–78.

Conference Committee of the European Physical Society

The representative of the Union followed the activities of the Committee, with the aim of providing information on the meetings of physicists which might be of interest to crystallographers, and took part in postal ballots concerning sponsorship of various meetings by the European Physical Society.

International Organization for Crystal Growth

In 1974, IOCG decided to seek association with IUPAC, IUPAP and IUCr. Although no approach was made to the IUCr in time for it to be considered at the Tenth General Assembly, the Assembly did decide to invite the IOCG Council to nominate an *ex officio* member of the Commission on Crystal Growth and also to elect the Chairman of the Commission, A. Authier, and N. Kato as IUCr representatives to IOCG.

Ad hoc Group on Materials Sciences in Space of the Committee on Space Research

The Committee on Space Research (COSPAR) of the International Council of Scientific Unions organized a meeting of an *ad hoc* group on materials sciences in space, in Varna, Bulgaria, 2–7 June 1975. E. Kaldis, representing the Union on this group, attended this meeting and was involved in drawing up plans for a symposium to be held in 1976. A review of the international activities in this field, made at the meeting, indicated involvement of about one hundred groups, in universities, research institutes, and industrial laboratories, in fundamental research and technical application in materials sciences in space. In view of this interest two recommendations were made to the Executive Committee of COSPAR. These recommendations, as modified and approved by the Executive Committee, are as follows:

1. That a symposium on this subject is held during the annual meeting of COSPAR in Philadelphia, USA, in June 1976. The goals of this symposium would be (a) a report of the results of space experiments and (b) discussion of various effects under zero gravity, in addition to those related to elimination of convection. In particular, the programme would be concerned with the topics of transport processes under zero gravity, fluid physics, phase equilibria, evaporation and condensation, crystal growth, heat and mass transfer, mechanisms of solidifica-

tion, surface physics and chemistry, fluid mechanics, design of experiments and ground evaluation.

2. That, depending on the results of the scientific discussions in this meeting, a COSPAR working group on 'materials sciences in space' should be established. This would mean a serious permanent engagement of COSPAR in this subject.

In view of the general interest and the strong financial involvement of several nations in this field, the IUCr Executive Committee decided to co-sponsor the symposium in Philadelphia and, in addition to Dr Kaldis, also appointed Dr A. A. Chernov and Dr R. A. Laudise to the Programme Committee.

International Council of Scientific Unions

The Union was represented at the meeting of the ICSU General Committee held near Vienna, 19–20 September 1975, by the Immediate Past President, Professor Dorothy Hodgkin, who explained the financial obligations of the Union as a result of its major publishing programme.

Three rapporteurs summarized the annual reports submitted by the Unions, and the Union representatives added comments on recent events, including reports on a variety of financial and political difficulties experienced in connexion with Congresses. Whilst some Congresses remained large and oversubscribed, others experienced a falling off in numbers and one nearly had to be cancelled because of lack of support. Professor Hodgkin drew attention to the difficulties in raising currency for the registration fees which were sometimes experienced by people wishing to attend a conference.

A Coordinating Committee for the Moon and Planets was set up. Early in 1976, M. Ross was appointed IUCr representative on this Committee, which intends to work mainly by correspondence.

Finances

The audited accounts for the year 1975 are given at the end of this Report. For comparison, the figures for 1974 are provided in italics. Negative quantities are indicated by parentheses.

The Unesco rates of exchange, as issued by the ICSU secretariat, have been used in the preparation of these accounts. As a consequence of the many fluctuations in exchange rates during the year, the following procedure has been adopted for the accounts. Assets and liabilities in currencies other than US dollars at 31 December 1975 have been translated into US dollars in the Balance Sheet at the rate operative at that date. For the Income and Expenditure Accounts, transactions have been translated into US dollars by applying the rates of exchange appropriate to the individual dates of these transactions. As a consequence of the fluctuations in exchange rates, a loss has arisen on the assets of the Union, in terms of US dollars, amounting to \$11 576. This loss has been divided amongst the eight Fund Accounts with credit balances, in direct proportion to the balances on these accounts at 31 December 1975.

The *Acta Crystallographica* account for 1975 shows a profit of \$4 629 as compared with a profit of \$28 813 for 1974. The increase of 20% in the subscription rates for 1975 was sufficient to cover the increases in publishing costs

during the year. The number of subscribers to both sections of the journal dropped slightly, from 1796 in 1974 to 1730 in 1975. These figures included 225 personal subscriptions in 1974 and 197 in 1975. There were also 245 subscribers to Section A and 153 subscribers to Section B in 1975. As in previous years, the total cost of the technical editing office has been divided between the *Acta Crystallographica* and the *Journal of Applied Crystallography* accounts in percentages based on the number of text pages published during the year; 84% and 16% respectively for 1975. With the retirement of Mr Bryant as Technical Editor at the end of 1975 and the resignation of an Editorial Assistant, members of staff had to be recruited during the year to provide replacements. These staff changes, together with the high level of inflation in the UK, resulted in a considerable rise in the cost of technical editing. However, it still forms only a very small part of the overall production costs. The journals accounts have also been charged with administrative expenses as shown in the General Fund.

The *Journal of Applied Crystallography* account shows a deficit of \$5442 as compared with a deficit of \$2464 in 1974. This deficit is the result of publishing 10% more pages in the journal than had been estimated. The number of subscribers dropped slightly, from 1221 in 1974 to 1205 in 1975. These figures included 125 personal subscriptions in 1974 and 116 in 1975.

The *Structure Reports* account shows a profit of \$16 564 as compared with deficit of \$652 in 1974. This is the result of the publication of ten volumes in April and October. Four more volumes were published in December, too late for any sales income or publication expenses to be included in the 1975 accounts. The turnover during the year was twice that of 1974. Now that *Structure Reports* is up to date it may be hoped that even more crystallographers, and other scientists requiring information about crystal structure determinations, will consult this comprehensive series. Cumulative indexes for *Strukturbericht* (1913–39), for structure determinations published during the period 1913–1973, and for *Structure Reports* (1961–70) are being prepared, as well as the annual volumes for 1974 and 1975. Editorial expenses totalled \$43 868 during 1975, and a further \$5622 was spent on typing manuscripts for photo-offset printing.

The *International Tables* account shows a deficit of \$2008 as compared with a deficit of \$32 326 in 1974. This considerable improvement is the result of steady sales of Volume IV, which was published in November 1974. 920 copies were sold in 1975, together with 824 copies of other volumes. The expenses for the volume on direct space, in the new series *International Tables for Crystallography*, included \$16 502 for salary and other expenses directly related to the computer preparation of the volume.

\$222 was received from the sale of 21 copies of *Fifty Years of X-ray Diffraction*. The sale of 23 copies of Volume I and 26 copies of Volume II of *Early Papers on Diffraction of X-rays by Crystals* yielded \$611, reducing the deficit on the fund account to \$8353.

The *Molecular Structures and Dimensions* account shows a profit of \$641. Volume 6 was published in 1975 and the earlier volumes continued to sell steadily. The excess of income over expenditure, \$12 810, was shared between the University of Cambridge and the Union in the ratio 19:1.

The General Fund account shows a deficit of \$2001 as compared with a profit of \$7338 in 1974. The administrative expenses were \$30 147 in 1975 as compared with \$27 972

in 1974, but an additional \$700 was charged to the journals and publications. Whilst only \$3500 was spent on supporting other scientific meetings, \$16 091 was spent on the Congress and General Assembly. This consisted of \$6604 in travel grants, \$590 towards the expenses of Commission meetings, \$971 for the General Assembly and \$7926 for the Executive Committee meeting held before and during the Congress. The cost of other expenses in connexion with the General Assembly, including the preparation and distribution of the agenda papers, are included under the administrative expenses of the Executive Secretary's office. The Proceedings of the Madrid Conference on Anomalous Scattering were published in August, at a cost of \$8161, of which \$2565 had been recovered from sales by the end of the year. The income from subscriptions remained unchanged at \$21 120 but the grant from the Unesco subvention was reduced from \$5250 to \$4000. A special grant of \$2000 from Unesco was used to provide travel support for participants from developing countries at the Summer School on Crystallographic Computing.

With the continued redemption of investments held by the Union, the income from investments and bank accounts dropped to \$20 490 from \$21 714 in 1974. In 1975, a profit of \$333 was made on the redemption of Dfl 38 000

and \$4500 of investments. As on previous Balance Sheets, the investments have been valued according to their quotations at the end of the year. Their depreciation in value, together amounting to \$21 852, has not been charged against the General Fund but has again been included as an asset on the Balance Sheet, to avoid annual fluctuations in value influencing the General Fund account. At the end of 1975 the Union held investments in government bonds with a total maturity value of Dfl 239 000, plus \$82 000, plus £30 000, plus Swiss F 18 000.

The total of \$65 002 with the Banks at the end of the year was represented by Dfl 45 821 and \$522 with the Amsterdam-Rotterdam Bank, \$14 821 with the First National City Bank, £15 339 with the National Westminster Bank and Swiss F 4016 with the Union Bank of Switzerland. The amounts shown in the Balance Sheet for debtors and creditors relate to sums, principally on the publishing accounts, due at 1 December 1975. Where appropriate, these amounts have now been settled.

The Balance Sheet shows that the assets of the Union, expressed in US dollars, have increased slightly during the year, from \$368 342 to \$369 982, after including the deficit of \$11 576 resulting from fluctuations in rates of exchange but excluding stocks of unsold publications.

General Fund Account for the year ended 31 December 1975

	US Dollars		US Dollars	
	1975	1974	1975	1974
Subscription to ICSU (2½% of subscriptions received from Adhering Bodies in 1974)	534	484	4,000	5,250
Subscription to ICSU Abstracting Board	300	130	21,120	21,120
Subscription to ICSU Committee on the Teaching of Science	200	200	17,752	18,501
Administration Expenses:			2,738	3,213
Honoraria: General Secretary, Treasurer and Secretarial Assistance	1,352	1,724	333	819
Legal Fees	1,717	1,740	57	100
Postages, Stationery, Printing and Sundries	391	371	2,565	-
Travelling Expenses	509	620		
Bank Charges and Differences on Exchange	226	99		
Executive Secretary's Office: Salary and Expenses	472	885	192	215
Depreciation of Office Equipment	25,302	22,096	77	-
Tenth General Assembly and Congress: Executive Committee	178	437	-	-
Travel Grants	7,926	-	-	-
General Assembly Expenses of Commissions	6,604	-	-	-
Meeting of the Programme Committee	971	-	-	-
Meeting of the Executive Committee	590	2,319	2,000	2,000
Travel Expenses of IUCr Representatives on Other Bodies	-	7,504	-	-
Expenses of Commissions	1,068	1,205	6,825	6,300
Sponsorship of Meetings	174	3,492	2,275	2,100
Publication of the Proceedings of the Madrid Conference on Anomalous Scattering	3,500	7,214	240	240
Anomalous Scattering	8,161	-	9,340	8,640
Excess of Income over Expenditure carried to Balance Sheet	(2,001)	7,338		
	<u>\$58,174</u>	<u>\$57,858</u>	<u>\$58,174</u>	<u>\$57,858</u>
Grant received from UNESCO				
Subvention to ICSU				
Subscriptions from Adhering Bodies				
Interest on Investments				
Profit on Banking Accounts				
Profit on Redemption of Investments				
Net Sale of copies of <i>World Directory of Crystallographers</i> :				
4th Edition				
Sales of the Proceedings of the Madrid Conference on Anomalous Scattering				
Net Sale of Sundry Publications (Bibliographies, Book List, List of Computer Programs and Index of Crystallographic Supplies)				
Donation				
Grant from UNESCO for Summer School on Crystallographic Computing				
Less Payment to Summer School				
Amount charged to Journals and Publications:				
<i>Acta Crystallographica</i>				
<i>Journal of Applied Crystallography</i>				
<i>Molecular Structures and Dimensions</i>				

The attached notes form an integral part of these accounts.

Acta Crystallographica Account for the year ended 31 December 1975

	US Dollars	
	1975	1974
Publication Expenses:		
Printing and Binding Volume 31 (1974 Volume 30)	244,921	221,456
Distribution and Postage	15,140	12,501
Airfreight Costs	7,866	10,380
	<u>267,927</u>	<u>244,337</u>
Printing Index to Volume 30 (1974 Volume 29)	3,263	2,798
Printing Acta Supplement S3 to Volume 31	6,745	—
Printing Index to Volumes 11–23	8,421	286,356
Editorial Expenses:		247,135
Editorial Honoraria	10,511	9,275
Secretarial Assistance	2,271	1,942
Postages, Telephone and Office Sundries	2,564	2,512
Travelling Expenses	225	269
Technical Editing:		
Salaries and Expenses	48,928	35,437
Depreciation of Office Equipment	387	64,886
Administration Expenses	6,825	439
Excess of Income over Expenditure carried to Balance Sheet	<u>4,629</u>	<u>28,813</u>
	<u>\$362,696</u>	<u>\$332,122</u>

Journal of Applied Crystallography Account for the year ended 31 December 1975

	US Dollars	
	1975	1974
Publication Expenses:		
Printing and Binding Volume 8 (1974 Volume 7)	44,020	40,586
Distribution and Postage	2,479	2,198
Airfreight Costs	1,573	2,076
	<u>48,072</u>	<u>44,860</u>
Printing Index to Volume 8 (1974 Volume 7)	1,274	1,015
Printing Acta Supplement S3 to Volume 31	1,481	—
Editorial Expenses:		45,875
Editorial Honoraria	2,508	1,444
Secretarial Assistance	960	47
Postages, Telephone and Office Sundries	94	175
Travelling Expenses	477	14
Technical Editing:		
Salaries and Expenses	9,319	6,254
Depreciation of Office Equipment	50	56
Administration Expenses	2,275	7,990
Excess of Income over Expenditure carried to Balance Sheet	<u>(5,442)</u>	<u>(2,464)</u>
	<u>\$61,068</u>	<u>\$53,501</u>

The attached notes form an integral part of these accounts.

	US Dollars	
	1975	1974
Subscriptions to Volume 31 (1974 Volume 30)	376,042	339,054
Sale of Back Numbers and Single Copies	10,984	21,979
Sale of Index to Volumes 11–23	6,448	—
Airfreight Charges to Subscribers	8,018	9,034
Royalties	11	13
	<u>401,503</u>	<u>370,080</u>
Less Publisher's Commission on Sales	39,363	38,889
	362,140	331,191
Income from Advertisements	654	1,096
Less Advertising Agent's Commission and Expenses	98	556
	<u>556</u>	<u>165</u>
	<u>\$362,696</u>	<u>\$332,122</u>

	US Dollars	
	1975	1974
Subscriptions to Volume 8 (1974 Volume 7)	62,474	54,949
Sale of Back Numbers and Single Copies	4,862	4,073
Airfreight Charges to Subscribers	1,607	1,745
Royalties	3	4
	<u>68,946</u>	<u>60,771</u>
Less Publisher's Commission on Sales	8,417	7,378
	60,529	53,393
Income from Advertisements	634	127
Less Advertising Agent's Commission and Expenses	95	539
	<u>539</u>	<u>19</u>
	<u>\$61,068</u>	<u>\$53,501</u>

Structure Reports Account for the year ended 31 December 1975

	US Dollars	
	1975	1974
Publication Expenses:		
Printing and Binding Volumes 28, 30A-35A, and 37A-39A (1974 Volumes 30B-33B and 35B)	100,124	51,736
Typing of Manuscripts	5,622	3,961
Editorial Expenses:	105,746	55,697
Salary and Honoraria: Editors, Abstractors and Assistants	43,868	29,525
Office and Travelling Expenses	257	503
Depreciation of Office Equipment	177	177
<i>Excess of Income over Expenditure carried to Balance Sheet</i>	16,564	(652)
	<u>\$166,612</u>	<u>\$85,250</u>
Sales of Copies of Volumes 8-27 and 29	4,304	3,165
Volumes 30B-33B and 35B	8,887	99,312
Volumes 28, 30A-35A and 37A-39A	185,150	-
Ten-Year Sets	3,690	904
	<u>202,031</u>	<u>103,381</u>
<i>Less Publisher's Commission on Sales</i>	35,419	18,131
	<u>166,612</u>	<u>85,250</u>
	<u>\$166,612</u>	<u>\$85,250</u>

International Tables Account for the year ended 31 December 1975

Publication Expenses:				
Printing and Binding Volume IV	2,357	22,963		
Printing Prospectus for Volume IV	411	-		
Binding Additional Copies of earlier volumes	1,043	692	23,655	
Editorial Expenses:				
Secretarial Assistance and Postage	170	85		
Travelling	1,142	254	339	
Computer Trial Project:	15,497	16,003		
Salary				
Travelling and Miscellaneous Expenses	1,005	341	16,344	
N.B.S. Monograph:				
Printing and Binding	-	1,230		
Distribution Costs	-	70	1,300	
	<u>\$21,625</u>	<u>\$41,638</u>		
Sales of Copies of Volumes I, II, III and IV	26,838	12,517	8,932	
<i>Less Publisher's Commission on Sales</i>	7,226	19,612	3,585	
Sales of Copies of N.B.S. Monograph	5	5	380	
<i>Excess of Expenditure over Income carried to Balance Sheet</i>	2,008	2,008	32,326	
	<u>\$21,625</u>	<u>\$41,638</u>		

The attached notes form an integral part of these accounts.

Fifty Years of X-ray Diffraction Account for the year ended 31 December 1975

	US Dollars	
	1975	1974
<i>Excess of Income over Expenditure carried to Balance Sheet</i>		
	222	145
	<u>\$222</u>	<u>\$145</u>
	269	176
	47	31
	<u>\$222</u>	<u>\$145</u>
<i>Excess of Income over Expenditure carried to Balance Sheet</i>		
	—	272
	—	<u>\$272</u>
	—	—
	—	—
	—	—
	—	357
	—	62
	—	23
	—	85
	—	<u>\$272</u>

Escher Drawings Account for the year ended 31 December 1975

	US Dollars	
	1975	1974
<i>Excess of Income over Expenditure carried to Balance Sheet</i>		
	266	235
	475	838
	741	1,073
	130	188
	611	885
	<u>\$611</u>	<u>\$885</u>

Early Papers Account for the year ended 31 December 1975

	US Dollars	
	1975	1974
<i>Excess of Income over Expenditure carried to Balance Sheet</i>		
	266	235
	475	838
	741	1,073
	130	188
	611	885
	<u>\$611</u>	<u>\$885</u>

Molecular Structures and Dimensions Account for the year ended 31 December 1975

	US Dollars	
	1975	1974
<i>Excess of Income over Expenditure carried to Balance Sheet</i>		
	5,464	4,346
	434	256
	347	—
	6,245	4,602
	644	645
	12,169	11,751
	641	618
	12,810	12,369
	<u>\$19,699</u>	<u>\$17,616</u>
	7,463	13,176
	10,965	—
	5,449	8,177
	23,877	21,353
	4,178	3,737
	19,699	17,616
	<u>\$19,699</u>	<u>\$17,616</u>

The attached notes form an integral part of these accounts.

**Notes on the Accounts
for the year ended 31 December 1975**

1. Accounting Policies

(a) Rates of Exchange

Unesco rates of exchange as issued by the ICSU Secretariat have been used in the preparation of these accounts.

Assets and liabilities in currencies other than US Dollars at 31 December 1975 have been translated into US Dollars in the Balance Sheet at the rates operative on that date. These are as follows compared with the US Dollar:

	1975	1974
Netherlands Guilders	2.67	2.60
Danish Crowns	6.06	5.80
Pounds Sterling	0.495	0.431
Swiss Francs	2.66	2.74

In each of the Income and Expenditure Accounts, transactions in currencies other than US Dollars have been translated into US Dollars by applying the standard rates of exchange appropriate to the individual dates of these transactions.

Profits and Losses arising from the fluctuations in rates of exchange during the year have been divided between the eight Fund Accounts with credit balances in direct proportion to those balances at 31 December 1975.

(b) Stocks of Unsold Copies of Union Publications

The value of these stocks has not been taken into account for Balance Sheet purposes. Publication, editorial and administrative expenses of the publications have been charged in the accounts as revenue expenditure as and when incurred.

(c) Depreciation

(i) Investments have been included in the Balance Sheet at market value. To this has been added depreciation calculated as the difference between cost and market value. This brings the Investments back to cost and prevents the fluctuation in values from influencing the General Fund Account.

(ii) Office Equipment is depreciated by applying the straight line method of depreciation over a five-year period.

Depreciation for the year has been charged to the various Fund Accounts as follows:

General Fund	178
<i>Acta Crystallographica</i>	387
<i>Journal of Applied Crystallography</i>	50
<i>Structure Reports</i>	177
	<u>\$ 792</u>

These policies are consistent with those adopted in previous years.

2. Taxation

As an association incorporated in Switzerland, the Union is exempt from Swiss Federal and Geneva Cantonal Tax. Under the terms of the United Kingdom/Switzerland Double Taxation Agreement of 30 September 1954, as supplemented by amending protocols of 14 June 1966 and 2 August 1974, whilst present circumstances obtain, all income arising within the United Kingdom will not be subject to United Kingdom Tax.

3. Subscriptions

Subscriptions from Adhering Bodies as shown by the General Fund Account represent total subscriptions due for the year 1975.