

International Union of Crystallography

Report of Executive Committee for 1964

Personal notes

The death of Professor Isidor Fankuchen on 28 June 1964 was a great loss to the community of crystallographers, and to his many friends and colleagues throughout the world. Professor Fankuchen rendered important services to the International Union of Crystallography, and to *Acta Crystallographica* in particular, of which he was Co-editor from its inception in 1948. He was chairman and member of various Commissions of the Union, and his active participation in the meetings of the Union will be deeply missed. His life was commemorated at a ceremony sponsored by the American Crystallographic Association on 27 July, and a full obituary was published in *Acta Cryst.* (1964), **17**, 1091.

On 7 July 1964 the scientific world again lost a senior crystallographer by the death of Professor Reginald William James. He was one of the pioneers of X-ray crystallography, especially by his studies of atomic scattering factors and the influence of thermal movements, and by his early structure investigations based on absolute reflexion intensities. An obituary notice devoted to Professor James was published in *Acta Cryst.* (1964), **17**, 1615.

The important role of X-ray diffraction methods in the structure investigation of complex organic compounds was recognized again in 1964 by the award of a Nobel prize in chemistry to Professor Dorothy Crowfoot Hodgkin, whose greatest success has been the structure determination of vitamin B₁₂. The Executive Committee wishes to take this opportunity of offering her its warm congratulations on this award.

Meetings

In 1964 the Union was not involved in the organization of a Congress or Symposium. Only two committee meetings were held, both in Amsterdam, The Netherlands. The Commission on *International Tables for X-ray Crystallography* met from 13 to 15 June to discuss the plans, contents and preliminary preparations for a possible new edition of the Tables. The Programme Committee for the 1966 Congress in Moscow met from 19 to 21 October to discuss the scientific programme and further organizational details for the Congress and subsequent Symposium.

Appointments

As successor to Professor Fankuchen, Professor D. P. Shoemaker was appointed Co-editor of *Acta Crystallographica*. The Executive Committee also approved the appointment of Dr I. D. Brown as additional Co-editor of *Structure Reports*. Since Professor Shoemaker had asked to be relieved of his duties as Chairman of the Commission on Crystallographic Computing, the Executive Committee appointed Professor D. W. J. Cruickshank in his place, in accordance with By-Law 5.4.

Publications

The 1964 volume of *Acta Crystallographica* was larger in size than any previous volume; its total number of pages amounted to 1631. At the end of the year a new volume of *Structure Reports* appeared, viz. Vol. 21, for 1957. The first bibliographies prepared under the auspices of the Commission on Crystallographic Apparatus, on *High-temper-*

ature X-ray diffraction techniques, and on *Low-temperature X-ray diffraction*, respectively, were completed and appeared early in 1965; copies were distributed free of charge to all subscribers to *Acta Crystallographica*. Preparations were started in 1964 for a third edition of the *World Directory of Crystallographers* which is planned to appear in the early autumn of 1965.

Adhering Bodies; National Committees

In 1964 an application for membership was received from the Polskiej Akademii Nauk. [At their meeting in April 1965 the Executive Committee considered this application to be in good order for presentation to the Seventh General Assembly in 1966.]

In the Report of the Executive Committee for 1963 the twenty-eight Adhering Bodies were listed, together with the names and addresses of the secretaries of the National Committees (see *Acta Cryst.* (1964), **17**, 1489). The following changes in this list have been reported since its publication:

- Chile: R. MUÑOZ, Laboratorio de Cristalografía, Universidad de Chile, Casilla 2777, Santiago.
- Denmark: E. KROGH ANDERSEN, Universitetets Mineralogisk-Geologiske Institut, Østervoldgade 7, København K.
- France: A. AUTHIER, Laboratoire de Minéralogie-Cristallographie à la Sorbonne, 1 rue Victor-Cousin, Paris V.
- Israel: ADA YONATH, Weizmann Institute of Science, Department of X-ray Crystallography, P.O. Box 26, Rehovoth.
- Pakistan: M. M. QURASHI, Defence Science Organization, Ministry of Defence, 21 Victoria Barracks, Rawalpindi.
- Poland: W. TRZEBIATOWSKI, Department of Chemistry, Politechnika Wroclawska, Wyspiańskiego 27, Wrocław.
- Switzerland: F. LAVES, Institut für Kristallographie und Petrographie der E.T.H., Sonneggstrasse 5, 8006 Zürich.
- U.S.A.: J. A. IBERS, Department of Chemistry, Northwestern University, Evanston, Illinois 60201.

The membership lists of the National Committees were included in the detailed report of the Rome General Assembly, which was distributed early in 1964. Up-to-date membership lists will also be published in the new edition of the *World Directory of Crystallographers*.

Work of the Commissions

Commission on Acta Crystallographica

At the beginning of this Report the great loss to the Commission by death of Professor I. Fankuchen has already been reported. Professor D. P. Shoemaker was appointed to succeed him as Co-editor of the journal.

The twelve regular issues of Vol. 17 for 1964 contained 1631 pages, making it the largest volume so far published. A survey of the contents of the last six volumes is given in Table 1. During the autumn of 1964 it appeared that the

Table 1. *Survey of the contents of Acta Crystallographica*

Vol.	Year	Number of pages	Articles			Short Communications		
			Number	Number of pages	Average length	Number	Number of pages	Average length
12	1959	1067	181	926	5.12	93	103	1.11
13*	1960	1164*	144	835	5.79	69	105	1.52
14	1961	1318	206	1111	5.40	166	181	1.09
15	1962	1324	199	1170	5.88	105	106	1.01
16†	1963	1471†	198	1099	5.55	101	117	1.16
17	1964	1631	242	1406	5.81	127	162	1.28

* Volume 13 includes the report of the Cambridge Congress, involving 169 pages of abstracts

† Volume 16 includes the report of the Rome Congress, involving 198 pages of abstracts.

printers were finding it impossible to keep up with the increased flow of papers, and the publishers recommended a change to another printing firm in the course of 1965. It is hoped that this will make possible a noticeable reduction in the time required for publication of accepted papers, which has decreased only slightly in spite of considerable efforts on the part of the Editorial Board in recent years.

The *Notes for Authors* had been under revision for some time, and a new set appeared in the January 1965 issue of *Acta Crystallographica*.

Commission on Structure Reports

Progress during the year was good: Vol. 21 appeared at the end of 1964, Vols. 22 and 23 will probably appear in 1965 as scheduled, Vols. 24 and 26 are planned to appear in 1966, and every effort is being made to complete the goal of bringing out Vol. 27 in that year also. One manuscript of Vol. 27 is essentially complete and ready for printing, but the Inorganic Section gives cause for concern. Some idea of the magnitude of the task can be gleaned from the fact that there are already 900 inorganic papers listed for reporting in that year!

Despite the increased load of work to be reported, the standard of length and cost per page which recently was established was maintained in Vol. 21 with 706 pages and rather better than 25 pages per consumer dollar. There are good prospects of this level being maintained for Vols. 22 and 23.

During the year Dr I. D. Brown was appointed as additional Co-editor, and he has assumed responsibility for the Inorganic Section of Vol. 27. Several of the present Section Editors will be discontinuing active work, at least temporarily, on completion of their present assignments, and it will be necessary in 1965 to assign new Editors to start work on Vols. 28 and 29.

Commission on International Tables

The Commission elected at the Rome Congress in 1963 had as its task the study of the possibility of a new edition of *International Tables*. After an exchange of views by post for some months, a meeting was held in February 1964 in Kiel, Germany, when ten crystallographers took part in a ten-day Symposium on Symmetry. A meeting was held in May 1964 in Cambridge, Mass., which was a joint discussion between some members of the Commission and physicists working in the crystallographic field. In June 1964 there was a meeting in Amsterdam attended by all members of the Commission, with one exception, and by seven other interested crystallographers from five different countries. At this meeting a first examination was made of the need for, and the problems involved in, the production of a new edition. Six coordinators were unofficially appointed with the task of carrying out a more detailed examination within the respective fields. Later in the year smaller meetings

were held in Switzerland and in the U.S.A. to continue this work.

The reprinting of Vol. I, which went out of print during the year, has been put in hand, and the new impression should appear in the middle of 1965.

Commission on Crystallographic Apparatus

Work has proceeded on various projects, the main activities being as follows:

1. *Bibliographies* (Dr E. G. Steward). The two bibliographies which had been prepared earlier were completed and printed. A further two bibliographies were initiated, one on methods of obtaining monochromatic radiation and the other on novel X-ray detectors. The bibliography on automatic diffractometers is not yet available.

2. *Single-crystal intensity measurements on diffractometers* (Dr S. C. Abrahams). Extensive discussion on the organization of this project, the most suitable form of questionnaire, and the selection of the material for the standard, occupied most of the year. Batches of selected single crystals of the standard material (2000 in all) and 40 ground spheres were delivered for distribution to participants. To deal with the statistical processing of the results, Dr W. C. Hamilton was appointed a consultant to this project.

Under consideration is a subsidiary project for intensity measurements to be made by photographic methods on the same standard material.

3. *Index of Crystallographic Supplies* (Dr V. Scatturin). Preliminary plans and the formulation of suitable literature for circulation have proceeded during the year.

4. In addition to the *Exhibition of Non-Commercial Apparatus* (Professor M. M. Umansky), other activities at the Moscow Congress have been under consideration, e.g. the possibility of an open session on non-standard X-ray detectors to include image converters, and a display of films have been suggested.

Commission on Crystallographic Computing

The business of the Commission was carried on by correspondence. Topics under discussion included computational information for Vol. II of *International Tables*, the provision of standard programs in ALGOL or FORTRAN, and test calculations. Preparatory work for a second edition of the *World List of Crystallographic Computer Programs* was started under the editorship of Professor D. P. Shoemaker.

Professor D. P. Shoemaker resigned as Chairman on his appointment as Co-editor of *Acta Crystallographica*, and Professor D. W. J. Cruickshank was appointed to take his place.

Commission on Crystallographic Data

1. Close working contact was maintained with the crystallographers engaged in the preparation of *Structure Reports*,

Powder Data File, International Tables, and, especially, *Crystal Data*. Even better abstracting services were obtained from the Centre de Documentation of the C.N.R.S. in Paris. As to the Russian literature, the U.S.S.R. National Data Committee contributed 301 abstracts.

The secretary of the Commission was invited by the International Council of Scientific Unions to attend, as an observer, the meeting of a working group on *International Critical Tables*. This meeting was held in Washington, D.C., in December 1964. Its purpose was to discuss international cooperation on the collection, evaluation, and dissemination of scientific data. In this field, the International Union of Crystallography was singled out as the best organized one in the whole realm of physical sciences.

2. In the field of standardization of crystallographic data in primary publications, the Commission drafted and discussed a set of recommendations, entitled *Primary Crystallographic Data*, designed for authors and the editors of non-crystallographic journals. The preparation of the draft required several meetings of the members involved; the opinion of other crystallographers also was obtained through correspondence and conversations.

3. *Pharmacopœias*. Preliminary exploration has been conducted in Italy, the United Kingdom and France, with a view to interesting National Committees on Pharmacopœias in the use of powder and single-crystal data for the characterization of drugs that are crystalline at room temperature.

4. The work done jointly with the Commission on Crystallographic Teaching to prepare and up-date the *List of Books on Crystallography* was continued.

Commission on Crystallographic Nomenclature

The Commission did not meet during the year. Its members continued an informal correspondence on the nomenclature of structure types.

Commission on Crystallographic Teaching

1. *Book List* (Dr H. Megaw). A new revision of the crystallographic book list was completed. This list contains about 800 entries, arranged alphabetically by author and cross referenced by subject. The list was distributed early in 1965 free of charge to all subscribers to *Acta Crystallographica*. Additional copies are available for purchase separately.

2. *Film List* (Professor H. Curien). The latest revision of the list of motion picture films of value on the teaching of crystallography is nearing completion and will be available before the end of 1965. Just how this list will be distributed or otherwise made available to educators has not yet been decided. The present revision will contain brief abstracts of the content of the film as well as the information contained in earlier editions of this list as to length, colour, sound, and educational level.

3. The syllabus file is continuing under the care of Professor S. Furberg in Oslo.

4. The Commission completed its preliminary discussion and recommended to the Executive Committee that the Union consider the publication of a monograph or series of monographs containing reprints of significant early papers on X-ray crystallography.

5. The Commission drew up plans for a one-week school or symposium to acquaint teachers of crystallography with some of the latest developments in the field. The school will be held in Czechoslovakia before the 1966 International Congress. For its main theme the school will cover some advances in crystal diffraction methods.

6. The Commission prepared a report on *The Role of Crystallography in Scientific Teaching and Economic Develop-*

ment for the Congress on Scientific Teaching and Economic Development held in Dakar, Senegal, in January 1965 under the auspices of UNESCO and the ICSU Inter-Union Commission on Science Teaching.

Commission on Electron Diffraction

The major activities of the Commission in 1964 were directed towards the International Conference in Melbourne in August 1965, Part 1 being a Symposium on Electron Diffraction. The topics of this symposium, and the invited speakers for the joint session with the Symposium on Crystal Defects (Part 2 of the Conference) were fixed, and details of the organization were discussed.

Representation on other bodies

Abstracting Board of the International Council of Scientific Unions

The Executive Committee of the ICSU Abstracting Board met in Stockholm from 14 to 16 July 1964. Because of the timing it was not possible for either of the IUCr observers to be present. The Abstracting Board has since increased its efforts to obtain cooperation from scientific periodicals in observing the Unesco 'Code of Good Practice' and in the preparation and publication of synopses.

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

1. In addition to the Commission members listed in the previous report [see *Acta Cryst.* (1964), 17, 1492] IUPAP elected the following corresponding members: P. Aigrain (France), F. C. Frank (U.K.), A. Seeger (Germany) and S. Sosnowski (Poland).

2. A successful International Conference on 'Physics of Noncrystalline Solids' was held at Delft, The Netherlands, 6-10 July 1964; this meeting had been sponsored by the Commission.

3. *Future Conferences*. On the recommendation of the Commission, IUPAP has agreed to sponsor the International Conferences on 'Electron Diffraction and the Nature of Defects in Crystals' (Melbourne, 16-21 August 1965), and on 'Luminescence' (Budapest, 1966). The Melbourne Conference will be the first meeting since 1957 sponsored jointly by IUCr and IUPAP. Suggestions are invited for other topics for future Conferences which would be of common interest to both Unions.

International Council of Scientific Unions

The Union was represented by its President, Professor J. D. Bernal, at the 2nd meeting of the ICSU Executive Committee, which was held in London from 15 to 17 June. As the 1st meeting of the ICSU Executive Committee was a short formal meeting held immediately after the 10th General Assembly in Vienna in November 1963, the 2nd meeting was in effect the first meeting of this new body of ICSU.

In addition to the routine business, the agenda contained a number of important topics which were, however, mainly of no direct interest to the IUCr, like the International Biological Programme, the Hydrological Decade, the International Years of the Quiet Sun, the Upper Mantle Project, etc. The following decisions made by the Executive Committee are of more general interest.

It was decided that the Inter-Union Commission on Science Teaching be requested to prepare a precise programme of activities; and that a Working Group be set up to consider and devise an expanded role for the ICSU Abstracting

Board. A Committee was also set up to examine how far the ICSU structure should be modified in order to deal adequately with a possible increase in the number of Unions and the rapid growth and diversification of science. The close collaboration between ICSU and UNESCO was enhanced by a formal agreement that ICSU should participate as adviser in the formulation of the natural sciences programme of UNESCO.

Finances

The audited accounts of the Union for the year 1964 are published at the end of this Report. The amounts are expressed in Netherlands Guilders, and the standard rates of exchange used by the U.N. organizations on 1 January 1965 were applied.

Notwithstanding the increase in the subscription prices as from 1964, the *Acta Crystallographica* account for that year again shows a deficit. The main cause for this deficit was the considerable increase in the size of the annual volume, from 1273 pages in 1963 to 1631 pages in 1964. In addition, the basic printers' charges were increased by about eight per cent in 1964. A comparison of the accounts for 1963 and 1964 shows that the total publication expenses increased from f. 173,756 in 1963 to f. 216,696 in 1964. This increase was slightly less than the increase in the total income from subscriptions and the sale of back numbers from f. 196,979 to f. 240,918. The net income from advertisements increased from f. 6483 to f. 11,317, and the total editorial expenditure decreased from f. 40,664 to f. 38,936. Owing to these advantageous differences the deficit on the 1964 account was only f. 3398, compared with a deficit of f. 10,958 in 1963.

Contrary to the expectation in 1963 that a number of profitable years without deficits could be expected, the further increase in the size of the journal will unavoidably have as a result that the 1965 account will show a heavy deficit. This will considerably decrease the accumulated balance in the account which amounted to f. 147,608 at the end of 1964. A substantial increase in the subscription prices will therefore be necessary. [Such a decision was made by the Executive Committee at its meeting in London in April 1965; see *Acta Cryst.* (1965), 18, 1089.]

The *Structure Reports* account for 1964 also shows a deficit, amounting to f. 28,195. It should be noted, however, that the cost of printing and binding of Vol. 21 was charged to the 1964 account whereas no copies of that volume were sold in that year. An amount of f. 57,791 was also paid for editorial honoraria, mainly for completed manuscripts of Vol. 21 and later volumes. In earlier reports it was frequently noted that if for each individual volume of *Structure Reports* the total expenditure and income is examined, the financial situation appears to be satisfactory, and this is still the case. The cost of production of most volumes has been completely recovered from the sales of copies of these volumes. As all volumes are still being sold at a reasonable level, reserves are being built up against unexpected factors, and for expenses which cannot be charged against any particular volume. Although the accumulated balance of the *Structure Reports* account decreased from f. 161,630 at the end of 1963 to f. 133,435 at the end of 1964, this balance is still considerably higher than it was a number of years ago. At the end of 1959 it amounted to only f. 44,706.

At the proposal of the Chairman of the Commission on *International Tables*, the total sum of subventions received in the past for this publication, and amounting to f. 103,050, was transferred from the *International Tables* account to the

General Publications Fund in 1964. The sale of copies of all three volumes continued at a most satisfactory level and yielded f. 38,445 in 1964. The main expenses were for travel in connexion with a meeting of the Commission, and the cost of binding of additional copies. The total expenditure amounted to f. 17,929 so that there was a balance of f. 20,516. Owing to the above mentioned transfer, the accumulated balance in the *International Tables* account decreased, however, from f. 171,695 to f. 89,160.

An amount of f. 4972 was received in 1964 from the sales of copies of *Fifty Years of X-ray Diffraction*. The stock of copies left from the first printing was exhausted, and a second printing of 1000 copies was made which involved an expenditure of f. 10,621. Owing to this printing the publication suffered a deficit of f. 5649 in 1964, which increased the accumulated deficit in the account from f. 3364 to f. 9013.

The accumulated balance of the General Publication Fund increased from f. 84,562 to f. 179,407 due to the above mentioned transfer from the *International Tables* account. An expenditure of f. 8205 for the printing and distribution of a large number of copies of a brochure concerning the publications of the Union was the first charge made against the Fund for many years.

Contrary to the deficit of f. 26,049 suffered in 1963 on the General Fund account, income of this Fund exceeded expenditure by f. 44,819 in 1964. This large difference was mainly caused by the fact that no Congress or Symposium was held in 1964, so that reserves could be formed for the large expenses expected in connexion with the International Conference in Australia in 1965 and the Seventh General Assembly and International Congress in Moscow, U.S.S.R., in 1966.

A comparison of the General Fund accounts for 1963 and 1964 shows that there was a slight increase in the administrative expenditure from f. 12,235 in 1963 to f. 13,130 in 1964. The printing and distribution of the official report of the Sixth General Assembly involved an expenditure of f. 3024. The Programme Committee for the Congress in Moscow met in 1964, and an amount of f. 3852 was spent for this meeting. This expenditure could, however, be recovered from the annual subvention received from UNESCO through ICSU.

In addition to this UNESCO subvention, the major sources of income of the General Fund were again the subscriptions from the Adhering Bodies (f. 27,133 in 1964 against f. 27,134 in 1963) and the income from investments and the interest on banking and deposit accounts (f. 20,908 in 1964 against f. 17,844 in 1963).

In 1964 the holding of investments decreased by the redemption of \$8000 3% Nederland 1947, f. 2000 3% Nederlandsch Indië 1937, and f. 1000 4½% Noorwegen 1955. On the Balance Sheet the investments have again been valued at their quotations as at the end of the year. Their depreciation in value, amounting to a total of f. 6520, has been included as an asset on the Balance Sheet so that the General Fund is not influenced by fluctuations in the value of the investments.

The larger parts of the balances with the various banks were placed on deposit accounts, namely, at the end of 1964, f. 86,000 with the Amsterdamsche Bank N.V., \$12,676 with the First National City Bank, Sw. Kr. 116,211 with A.B. Svenska Handelsbanken, and £11,840 with the Westminster Bank Ltd. The amounts due from the three publishers represent the balances of the 1964 accounts with these firms, and these amounts were received in 1965.

International Union of Crystallography

Acta Crystallographica Account for the year ended 31 December 1964

	<i>Netherlands Guilders</i>	<i>Netherlands Guilders</i>
Publication Expenses:		
Printing and Binding, Vol. 17, 1964	(D. Kr. 370,153-67) 192,183-81	(D. Kr. 435,938-71) 226,339-40
Distribution and Postage	(D. Kr. 47,212-32) 24,512-64	(D. Kr. 94,367-59) 48,995-66
	<u>216,696-45</u>	<u>275,335-06</u>
Editorial Expenses:		
Editorial Honoraria and Salaries	33,202-17	240,918-18
Secretarial Assistance, Postages, Telephone, Office Supplies, Stationery and Sundries	3,690-96	17,362-56
Travelling Expenses	1,896-14	2,850-19
Depreciation of Office Equipment	146-83	14,512-37
	<u>38,936-10</u>	<u>3,397-77</u>
Cost of Advertisements	(D. Kr. 6,155-19)	<u>3,195-77</u>
	<u>f. 258,828-32</u>	<u>f. 258,828-32</u>

Fifty Years of X-ray Diffraction Account for the year ended 31 December 1964

Cost of Production of 2nd Printing	10,621-00	6,020-00
		<u>1,048-07</u>
	<u>f. 10,621-00</u>	4,971-93
		<u>5,649-07</u>
		<u>f. 10,621-00</u>

Structure Reports Account for the year ended 31 December 1964

Publication Expenses:		
Printing and Binding Vol. 21 (for 1957)	32,685-70	19,817-00
Binding Additional Copies of Vol. 14	864-00	15,338-75
	<u>33,549-70</u>	6,745-00
Editorial Expenses:		
Editorial Honoraria, Abstractors' and Assistants' Salaries	57,790-99	17,578-50
Travelling Expenses	371-24	18,493-50
	<u>58,162-23</u>	77,972-75
		<u>14,456-11</u>
		63,516-64
		<u>28,195-29</u>
		<u>f. 91,711-93</u>

International Tables Account for the year ended 31 December 1964

	<i>Netherlands Guilders</i>	<i>Netherlands Guilders</i>
Publication Expenses:		
Binding Additional Copies of Vol. I	1,204.58	Sale of Copies of Vol. I
Vol. II	3,190.01	Vol. II
Vol. III	2,556.47	Vol. III
	<u>6,951.06</u>	<u>7,729.33</u>
Editorial Expenses:		89.96
Editorial Office Expenses	427.74	
Travelling Expenses	10,550.65	
	<u>10,978.39</u>	
	20,515.50	
	<u>f. 38,444.95</u>	<u>f. 38,444.95</u>
<i>Excess of Income over Expenditure carried to Balance Sheet</i>		
		Less Publishers' Commission on Sales
		Bank Charges and Differences
		<u>7,819.29</u>
		<u>38,444.95</u>

General Publications Fund Account for the year ended 31 December 1964

Cost of Printing and Distribution of Brochures about Union Publications	<u>f. 8,204.91</u>	<i>Excess of Expenditure over Income carried to Balance Sheet</i>	<u>f. 8,204.91</u>
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General Fund Account for the year ended 31 December 1964

Subscription to ICSU (2% of subscriptions received from Adhering Bodies in 1963)	512.28	Subvention from UNESCO through ICSU (\$5,250.00)	19,005.00
Subscription to ICSU Inter Union Commission on Science Teaching	725.80	Subscriptions from Adhering Bodies	27,132.67
Administrative Expenses:		Interest on Investments:	
Honorarium General Secretary and Secretarial Assistance	9,203.86	3½% Australia 1965/69	1,219.81
Auditors' Fees	2,240.00	6% Conversion Stock 1972	1,117.50
Postages, Stationery, Printing and Sundries	1,173.08	3% Nederland 1937	990.00
Bank Charges and Differences on Exchange	453.20	3% Nederland 1947	4,292.51
Depreciation of Office Equipment	60.00	3% Nederlandsch Indië 1937 I	1,355.00
	<u>13,130.14</u>	4½% Noorwegen 1955	230.21
Sixth General Assembly and International Congress, Rome, Italy:		4% Unie van Zuid Afrika 1955	200.00
Printing and Distribution of Report	3,023.75	Profit through Redemption of Investments	9,405.03
Expenses of Rapporteurs	112.51		2,464.44
	<u>3,136.26</u>	Interest on Banking and Deposit Accounts	9,038.05
Seventh General Assembly and International Congress, Moscow, U.S.S.R.:		Sale of Copies of <i>World Directory of Crystallographers</i>	131.89
Meeting of Programme Committee	3,852.27	Less Publishers' Commission	32.97
Incidental Travelling Expenses	289.12	Sale of Copies of Abstracts	64.86
	<u>439.81</u>	Less Publishers' Commission	10.70
Expenses of Commissions:	293.14		54.16
Commission on Crystallographic Apparatus	439.81		
Commission on Crystallographic Data	293.14		
	<u>732.95</u>		
<i>Excess of Income over Expenditure carried to Balance Sheet</i>	<u>44,819.45</u>		
	<u>f. 67,198.27</u>		<u>f. 67,198.27</u>

Balance Sheet as at 31 December 1964

<i>Liabilities</i>		<i>Assets</i>	
Sundry Creditors:		Cash at Bank:	
<i>Acta Crystallographica</i> Editorial Expenses	14,853-63	Amsterdamsche Bank N.V., Groningen, Guilder account	83,509-85
<i>Structure Reports</i> Editorial Expenses	3,593-04	Amsterdamsche Bank N.V., Groningen, Dollar account	
<i>International Tables</i> Editorial Expenses	587-89	(£12-32)	44-60
Administrative Expenses	2,052-00	Comptoir National d'Escompte de Paris (N.F. 2,972-39)	2,195-93
Travelling Expenses	365-37	First National City Bank of New York (\$16,489-04)	59,690-32
		A.B. Svenska Handelsbanken, Stockholm	
<i>Acta Crystallographica</i> Account:		(Sw. Kr. 116,211-24)	81,370-35
Balance as at 1 January 1964	151,005-93	(£13,140-16-0)	133,195-15
Less Excess of Expenditure over Income for the year to date	3,397-77	Cash with Editors and Commissions:	
	147,608-16	Editor of <i>Acta Crystallographica</i>	(£100-3-11) 1,015-58
<i>Structure Reports</i> Account:		Commission on Crystallographic Teaching	(£6-6-2) 63-94
Balance as at 1 January 1964	161,629-79	Due from:	
Less Excess of Expenditure over Income for the year to date	28,195-29	Imperial Metal Industries Ltd, Birmingham	
	133,434-50	Messrs Munksgaard, Copenhagen (D. Kr. 39,901-71)	10,060-78
<i>International Tables</i> Account:		N.V. A. Oosthoek's Uitgevers Mij, Utrecht	20,716-97
Balance as at 1 January 1964	171,694-69		16,282-50
Less Transfer to General Publications Fund	103,049-95	Subscriptions from Adhering Bodies, due for 1963 and 1964	47,060-25
	68,644-74	Advertisements in <i>Acta Crystallographica</i> , due for 1964,	868-80
<i>Add Excess of Income over Expenditure for the year to date</i>	20,515-50	after deduction of Advertising Agent's Commission	7,139-91
	89,160-24	Investments (Market values as at 31 December 1964):	
General Publications Fund:		£ 3,702-19-3 34% Australia 1965/69	85½ 32,060-17
Balance as at 1 January 1964	84,561-63	£ 3,000 6% Conversion Stock 1972	100 30,408-00
<i>Add Transfer from International Tables Account</i>	103,049-95	f. 33,000-00 3% Nederland 1937	86 28,380-00
	187,611-58	\$ 37,000-00 3% Nederland 1947	89½ 119,196-00
<i>Less Excess of Expenditure over Income for the year to date</i>	8,204-91	f. 45,000-00 3% Nederlandsch Indië 1937 I	97 43,650-00
	179,406-67	f. 5,000-00 4½% Noorwegen 1955	93 4,650-00
General Fund:		f. 5,000-00 4% Unie van Zuid Afrika 1955	90 4,500-00
Balance as at 1 January 1964	82,650-62	<i>Add Interest accrued thereon</i>	262,844-17*
<i>Add Excess of Income over Expenditure for the year to date</i>	44,819-45		2,772-23
	127,470-07	<i>Add Depreciation in value of Investments, entered as an asset</i>	265-616-40
		Office Equipment	6,519-70*
		<i>Fifty Years of X-ray Diffraction</i> Account:	272,136-10
		Deficit as at 1 January 1964	1,227-83
		<i>Add Excess of Expenditure over Income for the year to date</i>	3,363-89
			5,649-07
		Stocks of Unsold Copies of Union Publications	9,012-96
			<i>pro memoria</i>
			<u>f. 698,531-57</u>

Rates of Exchange: £1 = \$2-80; \$1 = f. 3-62 = N.F. 4-90 = Sw. Kr. 5-17 (ICSU rates).

* As in previous accounts, the depreciation in value of the investments has been included in the Balance Sheet only, to prevent fluctuations in their values from influencing the General Fund account.

We declare that the above Balance Sheet as at 31 December 1964, and the attached *Acta Crystallographica* Account, *Fifty Years of X-ray Diffraction* Account, *Structure Reports* Account, *International Tables* Account, General Publications Fund Account and General Fund Account, exhibit a true and correct view of the affairs of the International Union of Crystallography.

Groningen, Netherlands, Ubbo Emmiussingel 75

27 July 1965

Signed: VAN DIËN, VAN UDEN & Co. Accountants