

**PART 1**

**REPORT OF THE EXECUTIVE COMMITTEE**

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**1970-1972**



## EXECUTIVE COMMITTEE 1970–1973

### PRESIDENT

Professor B. Strömgen, Observatoriet, Østervoldgade 3, Copenhagen K, Denmark

### VICE-PRESIDENTS

Professor M. K. V. Bappu, Indian Institute of Astrophysics, Kodaikanal, India

Professor B. J. Bok, Steward Observatory, University of Arizona, Tucson, Arizona 85721, U.S.A.

Professor L. Gratton, Laboratorio di Astrofisica, Casella Postale 67, 00044 Frascati (Rome), Italy

Sir Bernard Lovell, Nuffield Radio Astronomy Laboratories, Jodrell Bank, Macclesfield, Cheshire, U.K.

Professor E. R. Mustel, Astronomical Council, USSR Academy of Sciences, Vavilov Str. 34, Moscow V-312, U.S.S.R.

Professor J. Sahade, Instituto de Astronomía y Física del Espacio, Casilla de Correo 67– Sucursal 28, Buenos Aires, Argentina

### GENERAL SECRETARY

Professor C. de Jager, c/o Space Research Laboratory of the Astronomical Institute, 21 Beneluxlaan, Utrecht, The Netherlands

### ASSISTANT GENERAL SECRETARY

Professor G. Contopoulos, Astronomical Department, University of Thessaloniki, Thessaloniki, Greece

### *Introduction*

The present report covers the period of three years from 1 January 1970 to 31 December 1972. It follows closely the pattern as set by previous reports, especially that for the years 1967–1969, formally approved by the XIVth General Assembly, and published in volume XIVB of the *Transactions of the IAU*.

The period under report includes the first eight months of the year 1970 (until 27 August) which fell under the responsibility of the former Executive Committee, but it does not include the first eight months of the year 1973, still within the responsibility of the present Executive Committee. An oral report for the period from 1 January to 20 August 1973 will be presented at the XVth General Assembly.

Decisions of the Executive Committee related to the XIVth General Assembly and printed in *Transactions* volume XIVB or published in the *Information Bulletin* of the IAU will not be repeated here. Thus, the present report is actually restricted to formal matters and deals with facts necessary for permanent record. The reports on the activity of IAU Commissions, Inter-Union Commissions, Astronomical Services, etc., have been included in the Reports on Astronomy, 1973, to be published as volume XVA of the *Transactions*.

The part called *Activities Report* deals with the administration of the Union, meetings of the Executive Committee, IAU Membership, adherence of countries, Commission of the IAU, colloquia and symposia organized by the Union, IAU publications, and relations to other organizations.

The part called *Report on IAU Finances* gives a rounded off picture of the receipts and payments of the Union during the period under report, and presents an outline of the Union's financial problems in the years to come.

The report is supplemented by an appendix listing data on Adhering Organizations, IAU Members and IAU publications.

#### *Activities Report*

Since 1970, the International Astronomical Union has operated in accord with the provisions of the new Statutes and By-laws adopted by the XIVth General Assembly, and of the Working Rules, as approved at the 34th meeting of the Executive Committee.

The Executive Committee and the Officers responsible for the administration of the Union have had to cope with two conflicting trends: the expanding activity of the IAU, on the one hand, and permanent inflation, on the other.

The number of IAU Members increased, as did that of IAU Commissions and Adhering Organizations; relations with other international and national organizations became more involved; the number of scientific meetings sponsored by the Union doubled in comparison with the period 1967–1969; the number of IAU publications increased; two General Assemblies had to be prepared for 1973; a new type of scientific meetings held under the auspices of the IAU has been introduced, etc.

This difficult situation was met by adding a shorthand-typist to the existing staff of two over the periods of intensified work, and seeking external help when necessary. Moreover, the President, the General Secretary and the Assistant General Secretary benefited from the services of several secretaries and secretarial facilities in Copenhagen, Utrecht and Thessaloniki, generously provided by their respective home institutions. The Executive Committee realises that the staff of the Administrative Office is largely insufficient that, however, the finances of the Union, as they are, do not permit an improvement in this respect.

The expanded activity of the IAU had to be financed from budgeted funds whose value had dropped through inflation by more than 30% in the course of time. This prompted the Executive Committee to abandon the Union's policy of generosity, such as the free distribution of IAU Transactions to Members, and to propose to the General Assembly an increase of the unit of contribution payable by Adhering Organizations.

#### *Executive Committee*

The Executive Committee, in its former composition, held its 33rd meeting in Brighton during the XIVth General Assembly, having had sessions on 16, 17 and 25 August 1970. The meeting was presided over by the President of the Union Prof. Dr O. Heckmann. All members and both advisors were present.

The 34th meeting of the Executive Committee, in its present composition, was held in Brighton on 27 August 1970, under the presidency of Prof. B. Strömgren. Excused were the Vice-Presidents Sir Bernard Lovell and Prof. E. R. Mustel. The President invited Dr C. A. Ronan and Prof. A. B. Severny to attend the meeting in their stead. Further, the Executive Committee held the following meetings:

The 35th meeting on Ile d'Yeu, France, from 6 to 10 September 1971. Prof. Dr O. Heckmann, advisor, was excused.

The 36th meeting in Copenhagen, Denmark, from 28 August to 1 September 1972. Prof. B. J. Bok, Vice-President, was excused.

The Executive Committee adopted, at its 35th meeting, the following resolution: "The IAU recognizes the fact that in certain parts of the world the need may be felt to start new regional activities involving especially young professional astronomers. The IAU will be happy to assist in, and to stimulate, the early organization of such activities whenever there seems to be an occasion on which the IAU's assistance may be needed."

This resolution led to the organization of the First European Astronomical Meeting under the Auspices of the IAU in Athens, Greece, from 4 to 9 September 1972.

#### *Officers' Meetings*

The President of the IAU, the General Secretary accompanied by his staff, and the Assistant

General Secretary (Officers), met as follows: in Copenhagen, Denmark, on 27 October 1970, in Utrecht, The Netherlands, on 24 and 25 February 1971, in Thessaloniki, Greece, on 12 and 13 May 1971, in Copenhagen on 29 November 1971, in Utrecht on 30 and 31 January 1972, in Copenhagen on 9 May 1972, in Thessaloniki on 30 October 1972, in Paris, France, on 28 February 1973, and in Copenhagen on 8 June 1973.

The meetings were held to co-ordinate the Union's activities in its manifold fields of interest, to implement the decisions of the Executive Committee, and to outline future programmes.

#### *Adhering Countries*

Cuba and Uruguay have adhered to the Union since 1970 thus bringing the number of Adhering Countries to 46. The Republic of Korea has asked for information regarding admission to the Union.

The list of Adhering Countries and corresponding adhering bodies, together with the approximate number of Members in each country, is given in the appendix on pages 25–26.

#### *Members of the IAU*

The number of IAU Members was 1993 on 8 February 1970. A further 567 new Members were admitted at the XIVth General Assembly. On the other hand, the General Secretary had been informed of the decease of 46 Members and of the retirement of 5 Members, so that the Union had 2509 Members on 1 February 1973.

The list of Members whose decease has been notified since 28 February 1970 is given in the appendix on pages 26–27.

#### *Commissions of the IAU*

The *Transactions of the IAU*, volume XVA, subtitled *Reports on Astronomy 1973*, include the reports prepared by each of the 39 Presidents of Commissions of the Union, assisted by their Vice-Presidents, Organizing Committees, those responsible for the various Working Groups within the Commissions, and by the Commission members, themselves.

The XIVth General Assembly created Commissions No. 47 on Cosmology and No. 48 on High Energy Astrophysics, and approved the merger of Commissions Nos. 23 “Carte du Ciel” and 24 on Stellar Parallaxes and Proper Motions into a single Commission No. 24 on Photographic Astrometry, thus bringing the number of Commissions to 39.

In view of the unfortunate decease of Professor M. G. J. Minnaert, Dr. A. Dollfus was appointed President ad interim of Commission No. 17 on the Moon, and Dr M. W. Feast became President ad interim of Commission No. 27 on Variable Stars after the resignation of Dr O. J. Eggen.

Between the General Assemblies, Commissions have co-opted a number of new members from among the Members of the Union. These co-options have been approved by the Executive Committee and published in the *Information Bulletin*.

The Presidents of Commissions will prepare proposals for the new composition of Commissions including co-opted members and new IAU Members to be admitted at the General Assembly.

Between the General Assemblies, Commissions organized several colloquia and other projects financially supported by the Union.

#### *Colloquia of IAU Commissions*

(held between 1 January 1970 and 31 December 1972)

IAU Colloquium No. 7 on Proper Motions, Minneapolis, Minnesota, U.S.A., 21–23 April 1970.

IAU Colloquium No. 8 on Techniques for Measurement of Fundamental Spectroscopic Data, London, U.K., 1–4 September 1970.

IAU Colloquium No. 9 on the IAU System of Astronomical Constants, Heidelberg, F.R.G., 12–14 August 1970.

IAU Colloquium No. 10 on the Gravitational  $n$ -Body Problem, Cambridge, U.K., 11–14 August 1970.

IAU Colloquium No. 11 on Automation in Optical Astrophysics, Edinburgh, U.K., 12–14 August 1970.

IAU Colloquium No. 12 “Physical Studies of Minor Planets”, Tucson, Arizona, U.S.A., 8–11 March 1971.

IAU Colloquium No. 13 “Evolutionary and Physical Problems of Meteoroids”, State University of New York, Albany, New York, U.S.A., 14–17 June 1971.

IAU Colloquium No. 14 “Ultraviolet and X-Ray Spectroscopy in Astrophysical and Laboratory Plasmas”, Utrecht, The Netherlands, 22–26 August 1971.

IAU Colloquium No. 15 “New Directions and Frontiers in Variable Star Research”, Bamberg, F.R.G., 31 August –3 September 1971.

IAU Colloquium No. 16 “Analytical Procedures for Eclipsing Binary Light Curves”, Philadelphia, U.S.A., 8–11 September 1971.

IAU Colloquium No. 17 “Ages des Etoiles”, Paris, France, 15–22 September 1972.

IAU Colloquium No. 18 “Orbital and Physical Parameters of Double Stars” Swarthmore College, Pennsylvania, U.S.A., 12–15 April 1972.

IAU Colloquium No. 19 “Stellar Chromospheres”, Greenbelt, Maryland, U.S.A., 14–18 February 1972.

IAU Colloquium No. 20 “Meridian Astronomy”, Copenhagen, Denmark, 25–28 September 1972.

IAU Colloquium No. 21 “Variable Stars in Globular Clusters and Related Systems”, Richmond Hill, Canada, 29–31 August 1972.

IAU Colloquium No. 22 “Astéroïdes, Comètes, Matière Météorique”, Nice, France, 4–6 April 1972.

IAU Colloquium No. 23 “Astronomical Polarimetry”, Tucson, Arizona, 15–17 November 1972.

#### *Specific Projects of Commissions*

The list of Specific Projects of Commissions as approved by the XIVth General Assembly is given, together with the corresponding expenditure, in the report on the financial situation of the IAU (page 10). These projects are, as a rule, continuations of previous projects and thus need no further comment.

#### *Symposia*

##### *IAU Symposia*

(held between 1 January 1970 and 31 December 1972)

IAU Symposium No. 41 “New Techniques in Space Astronomy”, München, F.R.G., 10–14 August 1970 (cosponsored by COSPAR).

IAU Symposium No. 42 “White Dwarfs”, St Andrews, U.K., 10–14 August 1970.

IAU Symposium No. 43 “Solar Magnetic Fields”, Paris, France, 31 August – 4 September 1970.

IAU Symposium No. 44 “External Galaxies and Quasi Stellar Sources”, Uppsala, Sweden, 10–14 August 1970 (cosponsored by URSI).

IAU Symposium No. 45 “The Motion, Evolution of Orbits, and Origin of Comets”, Leningrad, U.S.S.R., 4–11 August 1970.

IAU Symposium No. 46 “The Crab Nebula”, Jodrell Bank, U.K., 5–7 August 1970 (cosponsored by COSPAR and URSI).

IAU Symposium No. 47 “The Moon”, School of Physics, University of Newcastle upon Tyne, 22–26 March 1971.

IAU Symposium No. 48 “Rotation of the Earth”, Morioka, Japan, 9–15 May 1971.

IAU Symposium No. 49 “Wolf-Rayet and High-Temperature Stars”, Instituto de Astronomía y Física del Espacio, Buenos Aires, Argentina, 9–14 August 1971.

IAU Symposium No. 50 “Spectral Classification and Multicolour Photometry”, Villa Carlos Paz near Córdoba, Argentina, 18–24 October 1971.

IAU Symposium No. 51 "Extended Atmospheres and Circumstellar Matter in Spectroscopic Binary Systems" (Struve Memorial), Parksville, Vancouver Island, B. C., Canada, 6–12 September 1972.

IAU Symposium No. 52 "Interstellar Dust and Related Topics", Albany, N. Y., U.S.A., 29 May to 2 June 1972.

IAU Symposium No. 53 "Physics of Dense Matter", Boulder, Colorado, U.S.A., 21–25 August 1972.

IAU Symposium No. 54 "Problems of Calibration of Absolute Magnitudes and Temperatures of Stars", Geneva, Switzerland, 12–15 September 1972.

IAU Symposium No. 55 "X- and Gamma-Ray Astronomy", Madrid, Spain, 11–13 May 1972

The following IAU Symposia will be held in conjunction with the XVth General Assembly and the Extraordinary General Assembly in commemoration of Copernicus:

IAU Symposium No. 56 "The Fine Structure of the Chromosphere", Surfers Paradise, Queensland, Australia, 3–7 September 1973. ✓

IAU Symposium No. 57 "Coronal Disturbances", Surfers Paradise, Queensland, Australia, 7–11 September 1973. ✓

IAU Symposium No. 58 "Formation and Dynamics of Galaxies", Canberra, Australia, 12–15 August 1973. ✓

IAU Symposium No. 59 "Stellar Instability and Evolution", Canberra, Australia, 16–18 August 1973. ✓

IAU Symposium No. 60 "Galactic Radio Astronomy", Maroochydore, Queensland, Australia, 2–7 September 1973. ✓

IAU Symposium No. 61 "New Problems of Astrometry", Perth, Australia, 13–17 August 1973. ✓

IAU Symposium No. 62 "The Stability of the Solar System and of Small Stellar Systems", Warsaw, Poland, 5–8 September 1973. ✓

IAU Symposium No. 63 "Confrontation of Cosmological Theories with Observational Data", Cracow, Poland, 10–12 September 1973. ✓

IAU Symposium No. 64 "Gravitational Radiation and Gravitational Collapse", Warsaw, Poland, 5–8 September 1973. ✓

IAU Symposium No. 65 "Explorations of the Planetary System", Toruń, Poland, 5–8 September 1973. ✓

IAU Symposium No. 66 "Late Stages of Stellar Evolution", Warsaw, Poland, 10–12 September 1973. ✓

#### *Symposia with IAU Participation*

COSPAR/URSI/IAU/IAGA(IUGG) Symposium "1970 Solar Eclipse", Seattle, Washington, U.S.A., 18–21 June 1971.

COSPAR/IAU Symposium "High Angular Resolution Astronomical Observations from Space", Seattle, Washington, U.S.A., 24–26 June 1971.

SPARMO/IUGG/IAGA/IAU Symposium "Technology and Utilization of Stratospheric Balloons" Seattle, Washington, U.S.A., 26–28 June 1971.

IUHPS/IAU "Kepler Symposium", Austria and F.R.G., August 1971.

IAU/IAP/Meteorological Society/URSI Symposium "Planetology", Montreal, Canada, 22–29 August 1972.

URSI/COSPAR/IAU Symposium "Planetary Atmospheres and Surfaces", Madrid, Spain, 10–13 May 1972.

The IUPHS/IAU Symposium on the "Astronomy of Copernicus and its Background" will be held in Toruń, Poland, on 7 and 8 September 1973.

The IAU was, in addition, represented at numerous scientific meetings of ICSU organizations, as announced in the *IAU Information Bulletin*.

*IAU Publications*

Budgetary considerations led the Executive Committee to suspend the free distribution of IAU publications to Members. Thus only institutions of developing countries continue obtaining IAU Symposium volumes free of charge. Members of the Organizing Committees of Symposia receive each a complimentary copy of the corresponding Symposium volume. All IAU publications are being produced and distributed for the account and risk of the publisher, who pays the IAU a royalty.

The IAU continues financing the production and distribution of the *IAU Information Bulletin*.

*Transactions of the IAU*

The *Transactions of the XIVth General Assembly* were published in volumes A and B. Volume A, subtitled *Reports on Astronomy, 1970*, was distributed free of charge to IAU Members, Volume B, subtitled *Proceedings of the Fourteenth General Assembly, Brighton 1970*, was distributed free of charge to those who were Members of the IAU at the time of the XIVth General Assembly.

The Invited Discourses, proceedings of Joint Discussions and results of Special Meetings held during the XIVth General Assembly were published in the form of a symposium volume under the title *Highlights of Astronomy* (volume 2), as presented at the XIVth General Assembly of the IAU 1970.

Transactions volume A and B were financed from the budget of the IAU. The *Highlights of Astronomy* and all Symposium volumes went to the charge of the publisher.

The Transaction volumes sold as follows over the period under report:

vol. XIII A	107 copies
vol. XIII B	84 copies
vol. XIV A	489 copies
vol. XIV B	1.195 copies

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*IAU Symposia*

The IAU Symposium volumes sold as follows over the period under report:

<i>Highlights</i> , vol.1	122 copies
<i>Highlights</i> , vol.2	364 copies

Symposium vol. No. (in number of copies)

32-181	36-868	40-777	45-550
33-72	37-905	41-661	46-701
34-92	38-1.021	42-715	47-320
35-91	39-292	43-694	48-397
		44-734	

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*IAU Information Bulletin*

The *IAU Information Bulletin* was being prepared and edited by the General Secretary, and printed, published and distributed by D. Reidel Publishing Company, Dordrecht, Holland. It appeared twice a year and went, free of charge, to IAU Members, Consultants, members of International Science Writers Association, selected international organizations, and institutions on a special distribution list.



### *IAU Publication Policy*

The deteriorating financial situation of the Union led the Executive Committee to measures of austerity which also reflect in the publication policy of the IAU. The free distribution of *Transactions* volumes XIVA and XIVB was a generosity which cost the IAU about \$28,000 U.S. If the Union continued in this generosity it would have either to have recourse to its reserves, small as they are, or significantly curtail its scientific programme and thus fail to live up to its responsibilities. It was therefore resolved to discontinue the free distribution of *Transaction* volumes to Members.

A major and permanent concern of the Executive Committee is the rising prices of IAU publications. Efforts were and are being made to ameliorate the situation, but unfortunately no practicable solution could be found. Four outstanding publishing houses had been asked for conditions for a new publishing contract. Two of them declined outright, one offer was rather hypothetical, and the terms of the only positive response were not found more advantageous than those of the present arrangement. The Executive Committee therefore abided by the arrangements with the D. Reidel Publishing Company, but instructed the General Secretary closely to observe the book market for possibilities of reducing the prices of IAU publications.

### *Relations to other Organizations*

#### *IAU Representation*

1. *International Council of Scientific Unions (ICSU)*. The General Secretary represented, together with the former General Secretary Dr L. Perek, the Union at the XIIth meeting of the Executive Committee and 13th General Assembly of ICSU (Madrid, Spain, 24–29 September 1970). The General Secretary also represented the Union at the XIIIth meeting of the Executive Committee of ICSU held in Ottawa, Canada, on 29 and 30 September 1971, and at the extraordinary General Assembly and related meetings (14th General Assembly, 1st Executive Board meeting) of ICSU in Helsinki, Finland, from 16 to 20 September 1972, where he was elected into the Executive Board as representative of International Unions.

2. *ICSU Organizations*. The Union participates in the activity of a number of Special and Scientific Committees, and Inter-Union Commissions, formed and sponsored by ICSU. For more details please consult pages 13 onwards of volume XIIC of the *Transactions*.

The following list only gives the present state of IAU representation in these organizations:

- (a) Committee on Space Research (COSPAR): C. de Jager, President of COSPAR.
- (b) ICSU Abstracting Board (IAB): J. B. Sykes.
- (c) Federation of Astronomical and Geophysical Services (FAGS): B. Guinot, President, and G. A. Wilkins.
- (d) Inter-Union Committee on Frequency Allocation for Radio Astronomy and Space Science (IUCAF): O. Hachenber; D. S. Heeschen, V. A. Sanamian, F. G. Smith.
- (e) Inter-Union Commission on Solar Terrestrial Physics (IUCSTP – changed into a Special Commission to be re-named): Z. Švestka.
- (f) Inter-Union Commission on Science Teaching (IUCST): Edith A. Müller.
- (g) Committee for Data on Science and Technology (CODATA): G. A. Wilkins.
- (h) Inter-Union Commission on Spectroscopy (IUCS): B. Edlén; G. Phillips; M. J. Seaton.
- (i) Inter-Union Commission for Studies of the Moon (IUCM): A. Dollfus, Chairman, E. Anders.

#### *Other Organizations*

The Union is represented in the following organizations:

- (a) La Fondation Internationale du Pic-du-Midi: A. Lallemand.
- (b) Le Comité Consultatif pour la Définition de la Seconde (CCDS) du Bureau International des Poids et Mesures: Wm. Markowitz.
- (c) Le Comité Consultatif pour la Définition du Mètre (CCDM) du Bureau International des Poids et Mesures: A. H. Cook.

- (d) Le Comité Consultatif International des Radiocommunications (CCIR): F. G. Smith; H. M. Smith.
- (e) European Physical Society (EPS): G. Contopoulos.
- (f) Various Services of FAGS  
 Bureau International de l'Heure (BIH): H. M. Smith; G. M. R. Winkler (B. Guinot is Director of the Bureau).  
 International Polar Motion Service (IPMS): E. P. Fedorov; B. Guinot. The Chairman of the Scientific Council of IPMS is P. Melchior.  
 Quarterly Bulletin on Solar Activity (QBSA): Organizing Committee of IAU Commission 10  
 International Ursigrams and World Day Service (IUWDS): R. Michard.  
 Solar Particles and Radiation Monitoring Organization (SPARMO): C. W. Allen, C. de Jager, P. Simon.

*Direct Relations with UNESCO*

The IAU had the benefit of a direct contract with UNESCO, which provided for grants toward the Astronomy Courses held in Nairobi, Kenya, in August 1972. These courses proved a great success, and the Executive Committee wishes to express to UNESCO its thanks for the financial help.

*Relations with ICSU*

Over the period under report, the Union enjoyed the support of ICSU in all its efforts. In addition to the annual UNESCO subventions, transmitted to the Union by ICSU, this organism paid the Union, jointly with UNESCO, a further \$ 13,000 U.S. The Executive Committee feels that it has to extend its special thanks to ICSU for the generous assistance given to the Union.

*Report on IAU Finances*

In accord with the policy adopted in 1961, the Executive Committee presents to the Members of the IAU a "Summarized Account of Receipts and Payments" for the period from 1 January 1970 to 31 December 1972. All accounts are in U.S. dollars converted from other currencies at the following ICSU conversion rates, treated as exact:

For the year 1970:

£ sterling = \$2.40 U.S.

U.S. \$ = 3,60 Dutch guilders = 5,55 French francs = 14,38 Czechoslovak crowns

For the year 1971:

U.S. \$ = 3,25 Dutch guilders

For the year 1972:

U.S. \$ = 3,24 Dutch guilders

The unstable situation on the money market, as reflected in the varying conversion rates, accounts for the disparities between the closing balances in 1969, 1970 and 1971, and the opening balances in 1970, 1971 and 1972 respectively:

Closing balance	Opening balance	Difference
1969 \$55,274,47	1970 \$54,929,49	- \$ 344,98
1970 \$46,444,98	1971 \$48,020,49	\$ 1,575,51
1971 \$58,472,19	1972 \$58,566,48	\$ 94,29

The decreasing value of the U.S. dollar, and its eventual devaluation, depreciated the IAU assets on U.S. bank accounts by about 20 per cent.

Certain bank operations, such as transfers from one IAU account to the other, and reimbursements, were made at current rates of exchange and thus resulted in exchange differences.

The summarized account has been derived from 13 (7 in 1970, 3 each in 1971 and 1972) individual accounts of receipts and payments audited and certified as correct by the Union's professional accountants. These accounts will be available for examination by the Finance Committee at the XVth General Assembly.

*Summarized Account of Receipts and Payments*

The statement on pages ~~xix-xx~~<sup>41-44</sup> is a simple account of receipts and payments collected for convenience under a few main headings. The following explanatory notes provide more detailed information on each item of the accounts.

## SUMMARIZED ACCOUNT OF RECEIPTS AND PAYMENTS (IN U.S. DOLLARS)

		<i>Receipts</i>	
		U.S. dollars	U.S. dollars
1.	Contributions from adhering countries		
	-1970.. .. .	54.161,24	
	-1971.. .. .	60.315,41	
	-1972. . . . .	59.805,43	
			174.282,08
2.	Sales of IAU publications		
	-1970.. .. .	3.602,11	
	-1971.. . . .	9.514,86	
	-1972.. .. .	2.775,47	
			15.892,44
3.	Interest on accounts		
	-1970.. . . .	1.331,16	
	-1971 . . . . .	140,78	
	-1972. . . . .	81,67	
			1.553,61
4.	Grant from UNESCO subvention to ICSU		
	-1970. . . . .	18.000,—	
	-1971 . . . . .	18.000,—	
	-1972.. . . .	14.896,16	
			50.896,16
5.	Contracts with UNESCO		
	-1970.. .. .	2.000,—	
	-1971 . . . . .	2.000,—	
	-1972. . . . .	2.000,—	
			6.000,—
6.	Other receipts		
	-1970. . . . .	43.457,71	
	-1971 . . . . .	6.496,79	
	-1972. . . . .	2.480,16	
			52.434,66
		Total receipts	<u>301.058,95</u>
	Bank accounts as on 31 December 1972:		
	-Savings accounts	68.743,32	
	-Current accounts	69.050,34	
	Total balance on IAU Accounts as on 31 December 1972	<u>137.793,66</u>	

## EXECUTIVE COMMITTEE

SUMMARIZED ACCOUNT OF RECEIPTS AND PAYMENTS (IN U.S. DOLLARS)  
FOR THE PERIOD 1970-1972

		<i>Payments</i>					U.S. dollars	U.S. dollars
<b>1. Administrative office</b>								
-1970..	.	..	..	..	..	18,797,03		
-1971	.	..	..	..	..	20,396,96		
-1972.	.					25,188,74		
						<hr/>	64,382,7	
<b>2. Contribution to ICSU</b>								
-1970.	.	..	..	..	..	1,052,29		
-1971	..	..				1,083,22		
-1972..	..	..	..	..	..	1,507,88		
						<hr/>	3,643,39	
<b>3. Expenses of Commissions</b>								
-1970..		..			..	89,56		
-1971	.	..				—		
-1972.	.	..		..		—		
						<hr/>	89,56	
<b>4. Specific Projects of Commissions approved by the General Assembly</b>								
-1970.	.	..	.	.	..	18,723,15		
-1971	.	..	.	.	..	9,320,64		
-1972.	.					8,509,14		
						<hr/>	36,552,93	
<b>5. General Assembly</b>								
-1970 (XIV GA)	.		.	..	..	21,786,04		
-1971 (XV GA)	.	..	..	..	..	52,—		
-1972 (XV GA)	.	..	..	..	..	916,44		
						<hr/>	22,754,48	
<b>6. IAU publications</b>								
-1970.	..	..	..	.	..	18,328,72		
-1971					..	23,864,36		
-1972..		..	.			4,849,08		
						<hr/>	47,042,16	
<b>7. Meetings of Executive Committee</b>								
-1970.	..	..	.	..	.	—		
-1971	.	.	.	.	..	10,839,74		
-1972..		.	.	..	..	6,204,21		
						<hr/>	17,043,95	
<b>8. Meetings of officers</b>								
-1970.	.		.			—		
-1971	..	.	..	..	.	2,666,94		
-1972.	..	.	.	.	.	2,756,46		
						<hr/>	5,423,40	
						<hr/>	<hr/>	
						to bring forward	196,932,60	

	U.S. dollars brought forward	U.S. dollars 196.932,60
<b>9. Organization of IAU symposia and colloquia, and participation in other scientific meetings</b>		
-1970 . . . . .	10.941,89	
-1971 . . . . .	9.132,45	
-1972 . . . . .	10.054,76	
	<hr/>	30.129,10
<b>10. Inter-Union commissions, committees on the ICSU, etc.</b>		
-1970 . . . . .	2.300,—	
-1971 . . . . .	3.000,—	
-1972 . . . . .	4.299,30	
	<hr/>	9.599,30
<b>11. Other expenses of representation</b>		
-1970 . . . . .	1.914,56	
-1971 . . . . .	—	
-1972 . . . . .	—	
	<hr/>	1.914,56
<b>12. Projects authorized by the Executive Committee</b>		
-1970 . . . . .	—	
-1971 . . . . .	200,—	
-1972 . . . . .	1.578,45	
	<hr/>	1.778,45
<b>13. Summer schools (partly under direct UNESCO Contract)</b>		
-1970 . . . . .	1.319,28	
-1971 . . . . .	2.050,80	
-1972 . . . . .	2.976,96	
	<hr/>	6.347,04
<b>14. Reimbursement of loan from ICSU</b>		
-1970 . . . . .	1.000,—	
-1971 . . . . .	3.000,—	
-1972 . . . . .	2.000,—	
	<hr/>	6.000,—
<b>15. Other expenses</b>		
-1970 . . . . .	34.784,21	
-1971 . . . . .	409,03	
-1972 . . . . .	713,61	
	<hr/>	35.906,85
	Total payments	288.607,90
<b>Excess of receipts over payments</b>		12.451,05
	Total	<u>301.058,95</u>
<b>Bank Accounts as on 1 January 1970</b>		
-Savings accounts . . . . .	57.987,10	
-Current accounts . . . . .	54.929,49	
<b>Total balance on IAU Accounts as on 1 January 1970</b>	<hr/> <u>112.916,59</u>	

## EXECUTIVE COMMITTEE

*Specific Projects of Commissions*

Comm. No.	Project	Allocated in 1970 for 1971-1973 \$	1970 \$	Paid in 1971 \$	1972 \$	Total 1970/1972 \$	Total 1971/1972 \$	Balance for 1973 from allocation \$
4	Information Bureau on Astronomical Ephemerides	600	-	200,-	200,-	400,-	400,-	200,-
6	IAU Telegram Bureau	1.600	533,34	533,33	533,33	1.600,-	1.066,66	533,34
16	Centre de Documentation sur les Planètes à Meudon	1.500	500,-	1.000,-	-	1.500,-	1.000,-	500,-
17	Special Working Groups of Comm. 17	1.000	-	333,33	333,-	666,33	666,33	333,67
20	Minor Planet Center, Cincinnati	1.500	400,-	500,-	-	900,-	500,-	1.000 - waived
27	Catalogue of Variable Stars	3.000	-	-	-	-	-	3.000,-
37	Card Catalogue of clusters and Associations	-	1.500,-	-	-	1.500,-	-	-
38	Exchange of Astronomers Information Bulletin for the Southern Hemisphere	22.000	15.289,81	6.240,60	6.942,81	28.473,22	13.183,41	8.816,59
		1.500	500,-	513,38	500,-	1.513,38	1.013,38	486,62
	<b>Total</b>	32.700	18.723,15	9.320,64	8.509,14	36.552,93	17.829,78	13.870,22

*Receipts*

1. *Contributions from Adhering Countries.* The XIVth General Assembly of the IAU, held in Brighton, resolved that the unit of contribution remain fixed at 900 gold francs until 1973. This unit of contribution equalled \$293,94 U.S. at the time of the General Assembly. The parity of 900 gold francs = \$293,94 became untenable with the deteriorating position of the U.S. dollar, so that the 1972 contributions had to be collected in gold francs. Unfortunately, not all Adhering Countries established the conversion rate of the gold franc into the currencies used for payment correctly, which led to irregularities in the case of 13 countries.

As on 31 December 1972, the IAU had 46 Adhering Countries paying annually a total of 221 units of contributions. Seventeen countries adhered in category 1, twelve in category 2, seven in category 3, two in category 4, three in category 5, four in category 7, and one in category 8.

The contributions of 32 Adhering Countries had passed through the bank before 31 December 1972, and one payment made in 1972 passed the accounts after 31 December 1972. Five Adhering Countries owe their dues to the Union since 1971, seven Adhering Countries failed to pay their contributions for 1972, and one country only paid 13/14 of its membership fee for that year.

2. *Sales of publications.* The receipts of \$15,892,44 U.S. are by about \$1,700 U.S. higher than anticipated in the budgets for 1970, 1971 and 1972. They consist of payments made by Academic Press Inc. (London) for sales of publications, royalties from the same publishers, royalties from Cambridge University Press, royalties from D. Reidel Publishing Company, and revenues from sales made by the Secretariat.

3. *Interest on accounts.* The interest of \$1,190,50 U.S. earned on the savings account at the Amsterdam-Rotterdam Bank in 1970 has been transferred to the current account at that bank. For the years 1971 and 1972 it has been allowed to accumulate on the savings account. The same applies to the interest earned on the savings accounts at the Chemical Bank and the American Savings Bank for 1970 through 1972. \$140,66, 140,78 and 81,67 were earned on the current account at the Amsterdam-Rotterdam Bank over 1970, 1971 and 1972 respectively. The total interest earned on the savings accounts at Amsterdam-Rotterdam Bank, Chemical Bank and American Savings Bank over 1970-1972 is \$9,690,68 U.S.

4. *UNESCO subvention through ICSU.* Detailed accounts of the expenditure of this subvention are submitted to UNESCO (through ICSU) each year. The distribution of the subvention is left to the discretion of the IAU within the permitted UNESCO categories.

In 1970 and 1971 the normal UNESCO subvention of \$14,000 U.S. was increased by \$3,000 U.S. for each year, in 1972 by \$1,000 U.S. The loss of \$103,84 U.S. is accounted for by the difference between the ICSU conversion rate of the Dutch guilder and the actual bank rate, and by bank charges.

5. *UNESCO contracts.* The \$2,000 U.S. in 1970 are the final payment by UNESCO towards the Young Astronomers' School held in Hyderabad, India, in 1969 (Contract UNESCO/SC/1492/69). The \$2,000 U.S. in 1972 represent the final payment by UNESCO towards the Young Astronomers' School held in Cordoba, Argentina, in 1970 (Contract UNESCO/SC/1973/70), and the \$2,000 U.S. in 1972 are a UNESCO grant for the Nairobi Astronomical Courses, 1972 (Contract UNESCO/SC/HP 250.727).

6. *Other receipts.* The entries under this heading largely misrepresent the actual receipts of the Union, as they include internal bank transfers, transient items, reimbursements, etc. The following is an analysis of the amounts of \$43,457,71, \$6,496,79 and \$2,480,16 U.S. for the years 1970, 1971 and 1972 respectively:

*Other receipts in 1970*

	\$ U.S.
– reimbursement by ICSU of IAU subscription for 1969	881,12
– payment by Istanbul University for reason unknown	398,86
– reimbursement by ICSU of General Secretary's expenses with ICSU meetings	1.232,85
– reimbursement of unused grants for IAU Symposia and Colloquia	723,89
– reimbursement of unused Commission No. 38 grant	520,00
– rectification of erroneous debit	700,00
– reimbursement by LOC Brighton of young astronomers' registration fees	833,56
– reimbursement by LOC Brighton of 50% of expenditure for Preliminary Announcement	340,65
– General Secretary's personal deposit	257,13
– reimbursement of unused air-ticket coupon	32,00
– internal transfers	<u>37.537,65</u>
Total	43.457,71

*Other receipts in 1971*

– reimbursement by ICSU of IAU contribution paid in 1970	1.052,29
– reimbursement of unused parts of airtickets	25,76
– erroneous credits	14,08
– refund of unused amounts from EC 35 meeting	4.913,89
– reimbursement of unused part of additional contribution to IUCAF	380,92
– transfers to Petty-cash	<u>109,85</u>
Total	6.496,79

*Other receipts in 1972*

– reimbursement by ICSU of IAU contribution paid in 1971	1.084,82
– refund of unused amount advanced to 36th E.C. meeting	379,50
– rectification of erroneous debit	84,03
– erroneous credit	317,26
– refund of unused grants	248,66
– exchange-rate gain on cheque of \$4.200 (35th E.C. meeting)	217,74
– transfers to Petty-cash	<u>148,15</u>
Total	2.480,16

<i>Recapitulation:</i>	\$ U.S.
Other <sup>net income</sup> expenses in 1970	43.457,71
1971	6.496,79
1972	<u>2.480,16</u>
Total	52.434,66

It is seen that the bulk of this sum is made up of transfers from one current account to another, of various reimbursements and erroneous credits which are balanced by corresponding payments and cannot therefore be considered as effective receipts.

*Payments*

The headings have been numbered to correspond to those of the budget approved by the XIVth General Assembly.

1. *Administrative Office.* The expenses of the Administrative Office include the salaries, social



security and pension payments of the staff of the IAU Secretariat and expenditure for a typewriter, stationery, etc. It should be noted that thanks to the generosity of the Czechoslovak Academy of Sciences, the Astronomical Institute in Utrecht, the Observatoriet in Copenhagen, and the University of Thessaloniki, the Union paid no rental, had the free use of all communication facilities, and only spent a negligible amount on stationery.

2. *Contributions to ICSU.* The annual contributions of the Union towards the administrative expenses of ICSU have been raised, from 1971 on, from 2 to 2,5 per cent of the income from membership fees for the year preceding payment.

3. *Specific Projects of Commissions.* Details of the allocations approved by the XIVth General Assembly are given in the report of the Finance Committee (*Transactions IAU*, vol. XIII B for 1970; *Transactions IAU*, vol. XIV B for 1971–1973). Actual payments were as in the list on page 14 which requires only little comment.

The grant towards the publication of the Card Catalogue of Clusters and Associations is a balance from 1970 which is not covered by the allocations made in that year.

Commission No. 20 waived the grants attributed for 1972 and 1973 which represents a saving of \$1,000 U.S. under this heading.

The balance as on 31 December 1972 consists of credits in favour of the different projects which may, but need not be spent in 1973.

4. *General Assembly expenses.* The amount of \$21,786,04, as given in the summary account for 1970, had been withdrawn from the IAU current bank accounts in connection with the XIVth General Assembly in Brighton, 1970. This sum was used as follows:

Purpose	\$U.S
(a) Travel and living expenses of members of the Executive Committee	6.729,62
(b) Travel expenses of Presidents of Commissions	4.170,60
(c) Travel grants to young astronomers	6.084,00
(d) IAU Staff and external help	2.931,16
(e) Officers meeting in 1970	1.824,07
(f) Local expenses (postage, telegrams, etc.)	46,59
Total	21.786,04

The costs of the XIVth General Assembly itself were \$19,212,17 U.S., that is by about \$1,400 U.S. more than in 1967.

The amounts of \$52,00 U.S. in 1971 and \$916,44 in 1972 were paid in preparation for the General Assemblies in 1973.

5. *IAU Publications.* The IAU only financed the production of *Transactions* volumes XIVA and XIVB, and of the *Information Bulletin*. All other IAU publications were financed by the publisher. A considerable amount was spent on the purchase of IAU symposium volumes distributed free of charge to institutions of developing countries. The expenditure under this heading was as follows:

*In 1970*

	\$U.S.
(a) D. Reidel Publishing Company for printing and distribution of <i>Transactions</i> Vol. XIVA	13.634,05
(b) D. Reidel for printing and distribution of <i>Information Bulletin</i> Nos. 23 and 24	2.851,41
(c) D. Reidel for IAU publications distributed free of charge to institutions of developing countries	1.793,26
(d) Contribution towards editorial expenses in connection with <i>Highlights of Astronomy 1967</i>	50,00
Total	18.328,72

*In 1971*

	\$ U.S.
(a) D. Reidel for additional charges in connection with printing and distribution of <i>Transactions</i> Vol. XIVA	1.124,88
(b) D. Reidel for free distribution of <i>Highlights of Astronomy 1970</i>	1.554,80
(c) D. Reidel for printing and distribution of <i>Transactions</i> Vol. XIVB and for reprints of alphabetical list, Statutes, etc.	13.738,72
(d) D. Reidel for free distribution of IAU Symposium volumes	5.524,22
(e) D. Reidel for printing and distribution of <i>Information Bulletin</i> Nos. 25 and 26	1.890,08
(f) D. Reidel for complimentary copies	31,66
Total	<u>23.864,36</u>

*In 1972*

	\$ U.S.
(a) D. Reidel for printing and distribution of <i>Information Bulletin</i> No. 27	1.728,26
(b) D. Reidel for free distribution of IAU publications	2.924,15
(c) D. Reidel for 5 copies of Symposium volume No. 46	87,30
(d) Refund to IAU Member of printing charges	109,37
Total	<u>4.849,08</u>

<i>Recapitulation:</i>	\$ U.S.
Costs of IAU publications and free distribution in	
1970	18.328,72
1971	23.864,36
1972	4.849,08
Total	<u>47.042,16</u>

6. *Meetings of the Executive Committee.* The costs of the 33rd and 34th meetings of the Executive Committee held in Brighton, 1970, are included under heading 4, General Assembly expenses.

The amount of \$10.839,74, as costs of the 35th meeting of the Executive Committee, calls for explanation. A cheque of \$4.200 sent to France for financing the meeting could not be collected owing to French monetary restrictions. Money in cash had to be taken to France from the current account at the Amsterdam-Rotterdam Bank. The refund of \$4.200 U.S. for the unused cheque was credited to the Union with \$4.229,08 U.S. as per new rate of exchange. Moreover, \$684,81 were refunded to the account of the IAU as unused part of the money taken out in cash. Thus

\$10.839,74 taken out from accounts
- \$ 4.200,00 unused cheque
- \$ 29,08 gain on conversion rate
- \$ 684,81 refund in cash
\$5.925,85 are the net expenses for the 35th meeting of the Executive Committee

The amount of \$6.204,21 as costs of the 36th meeting of the Executive Committee gives the following net expenses if analysed:

\$6.204,21 taken out from accounts
- \$ 379,50 refunded in cash
\$5.824,71 net expenses of the 36th meeting of the Executive Committee.

The figures of \$5.925,85 U.S. for 1971 and \$5.824,71 U.S. for 1972 compare well with the figures of \$6.124,61 U.S. and \$5.647,14 U.S. for 1968 and 1969 respectively.

7. *Meetings of Officers.* The ever more complicated administration of the Union requires that the President, General Secretary and Assistant General Secretary meet at more or less regular intervals to co-ordinate action. The bulk of the expenditure under this heading is for travel expenses of the

officers and staff, so that the total expenditure for the meetings increases with increasing distance between the participants. This should be borne in mind when preparing the budgets for the coming years.

8. *Symposia and Colloquia.* The payments were, as a rule, for travel grants towards participation in the meetings; organizational expenses incurred by the IAU were insignificant. The grants were allocated by the Organizing Committees of the meetings and had to be approved by the Assistant General Secretary. The payments were made by the Secretariat. The following table shows the payments in more detail:

Symposium No.	Subject, Place, Date	Payment in \$ U.S.
38	Spiral Structure of the Galactic System, Basel, Switzerland, 29 August – 4 September 1969	360,00*
41	New Techniques in Space Astronomy, Munich, F.R.G., 10–14 August 1970	1.080,00
42	White Dwarfs, St Andrews, U.K., 10–14 August 1970	900,00
43	Solar Magnetic Fields, Paris, France, 31 August – 4 September 1970	1.551,89
44	External Galaxies and Quasi Stellar Sources, Uppsala, Sweden, 10–14 August 1970	2.100,00
45	The Motion, Evolution of Orbits, and Origin of Comets, Leningrad, U.S.S.R., 4–11 August 1970	2.000,00
46	The Crab Nebula, Jodrell Bank, U.K., 5–7 August 1970	1.400,00
47	The Moon, Newcastle upon Tyne, U.K., 22–26 March 1971	1.661,54
48	Rotation of the Earth, Morioka, Japan, 9–15 May 1971	1.600,00
49	Wolf-Rayet and High-Temperature Stars, Buenos Aires, Argentina, 9–14 August 1971	1.500,00
50	Spectral Classification and Multicolour Photometry, Villa Carlos Paz near Cordoba, Argentina, 18–24 October 1970	1.337,00
51	Extended Atmospheres and Circumstellar Matter in Spectroscopic Binary Systems, Parksville, Vancouver Island, B. C., Canada, 6–12 September 1972	1.350,00
52	Interstellar Dust and Related Topics, Albany, N.Y., U.S.A., 29 May – 2 June 1972	1.500,00
53	Physics of Dense Matter, Boulder, Colorado, U.S.A., 21–25 August 1972	1.414,76
54	Problems of Calibration of Absolute Magnitudes and Temperatures of Stars, Geneva, Switzerland, 12–15 September 1972	1.370,00
55	X- and Gamma-Ray Astronomy, Madrid, Spain, 11–13 May 1972	1.500,00
	Total	22.625,19
Colloquium No.	Subject, Place, Date	Payment in \$ U.S.
5	Visual Double Stars, Nice, France, 8–10 September 1969	100,00**
7	Proper Motions, Minneapolis, Minnesota, U.S.A., 21–23 April 1970	— ***
8	Techniques for Measurement of Fundamental Spectroscopic Data, London, U.K., 1–4 September 1970	450,00
	To bring forward	550,00

\* \$ 300,00 U.S. are editorial expenses paid in 1970, and \$ 60 U.S. represent a cheque made out in 1969, but collected in 1970.

\*\* Additional grant paid in 1970.

\*\*\* Advance payment made in 1969.

Colloquium No.	Subject, Place, Date	Payments in \$U.S. brought forward
9	The IAU System of Astronomical Constants, Heidelberg, F.R.G., 12–14 August 1970	550,00
10	The Gravitational <i>n</i> -Body Problem, Cambridge, U.K., 11–14 August 1970	500,00
11	Automation in Optical Astrophysics, Edinburgh, U.K., 12–14 August 1970	400,00
12	Physical Studies of Minor Planets, Tucson, Arizona, U.S.A., 8–11 March 1971	150,00
13	Evolutionary and Physical Problems of Meteoroids, Albany, N.Y., U.S.A., 14–17 June 1971	500,00
14	Ultraviolet and X-Ray Spectroscopy in Astrophysical and Laboratory Plasmas, Utrecht, The Netherlands, 24–26 August 1971	485,97
15	New Directions and Frontiers in Variable Star Research, Bamberg, F.R.G. 31 August – 3 September 1971	500,00
16	Analytical Procedures for Eclipsing Binary Light Curves, Philadelphia, U.S.A., 8–11 September 1971	500,00
17	Agés des Étoiles, Paris, France, 15–12 September 1972	500,00
18	Orbital and Physical Parameters of Double Stars, Swarthmore College, Pennsylvania, U.S.A., 12–15 April 1972	300,00
19	Stellar Chromospheres, Greenbelt, Maryland, U.S.A., 14–18 February 1972	470,00
20	Meridian Astronomy, Copenhagen, Denmark, 25–28 September 1972	500,00
21	Variable Stars in Globular Clusters and Related Systems, Richmond Hill, Canada, 29–31 August 1972	500,00
22	Asteroides, Comètes, Matière Météorique, Nice, France, 4–6 April 1972	350,00
23	Astronomical Polarimetry, Tucson, Arizona, U.S.A., 15–17 November 1972	300,00
	Total	7.005,97

IAU contribution towards participation in and/or organization of scientific meetings of other international organizations

\$497,94 U.S.

<i>Recapitulation:</i>	\$U.S.
Symposia	22.625,19
Colloquia	7.005,97
Other meetings	497,94
Total	30.129,10

9. *Inter-Union Commissions.* The payments consisted of contributions to the Inter-Union bodies in question, and of expenses of IAU representatives at the meetings of ICSU AB and IUCM. They were as follows:

– Contribution to CIES (ICSU Committee on Science Teaching) 1970–1972	600,00
– Contribution to IUCAF 1970–1972	3.500,00*
– Contribution to IUCSTP 1970–1972	3.000,00
– Contribution to IAB (ICSU Abstracting Board) 1970–1972 and travel expenses of IAU representative to its meetings	839,30
To bring forward	79.39,30

\* \$ 380,92 were refunded as unused part of a grant of \$ 500 U.S.

	\$U.S.
	brought forward 79,39,30
- Contribution to FAGS - 1972	1,000,00
- Travel expenses of IAU representative to IUCM meeting (Inter-Union Commission on the Moon) 1972	660,00**
Total	9,599,30

10. *Projects authorized by the Executive Committee.* The \$200 U.S. paid in 1971 were a grant towards the publication of the Bibliography and Program Notes of Eclipsing Binaries (Commission No. 42) and \$1,578,45 U.S. were expenses incurred, in 1972, with the preparation of the First European Astronomical Meeting held, under the auspices of the IAU, in Athens, September 1972 (initiated by the Executive Committee).

11. *Reimbursement of loan from ICSU.* The \$6,000 U.S. under this heading represent instalments towards the reimbursement of a loan of \$10,000 U.S. obtained from ICSU in 1967. The debt has now been cleared.

12. *Summer Schools (Now Young Astronomers' Schools).* The payments made under the terms of UNESCO contracts were as follows:

	\$U.S.
Balance from contract UNESCO/SC/1492/69 (School in Hyderabad)	1,370,08
Balance from contract UNESCO/SC/1943/70 (School in Cordoba)	2,000,00
Under the terms of contract UNESCO/SC/RP/250 727 (Courses in Nairobi)	2,000,00
Total	5,370,08
Travel and living expenses paid to the lecturer at Nairobi Courses from IAU funds	976,96
Grand total	6,347,04

Details of payments in respect of the contracts are given in the reports to UNESCO. They are available to the Finance Committee for examination.

13. *Other expenses.* Reference is made to the comment on heading 6 under Receipts. The analysis of the amounts of \$34,784,21 U.S. for 1970, \$409,03 U.S. for 1971 and \$713,61 U.S. for 1972 is as follows:

Other expenses 1970		\$U.S.
- Transfer from Chemical Bank to Barclays Bank		10,000,00
- Transfer from Amsterdam-Rotterdam Bank to ČSOB		9,594,44
- Transfer from Amsterdam-Rotterdam Bank to Barclays Bank		277,78
- Transfer from Amsterdam-Rotterdam Bank to Petty Cash, Utrecht		27,78
- Transfer from Société Générale to Chemical Bank		4,631,22
- Transfer from Barclays Bank to Chemical Bank		1,159,00
- Transfer from ČSOB to Amsterdam-Rotterdam Bank		6,742,00
- Transfer from ČSOB to Petty-Cash, Prague		272,00
Internal transfers		32,704,22
Participation- and other expenses of General Secretary		1,619,69
Erroneous debit		350,00
Bank charges and exchange losses		110,30
Total for 1970		34,784,21

\*\* Unused \$ 15,66 U.S. refunded.

Other expenss 1971	\$ U.S.
Participation expenses of Assistant General Secretary	255,80
Transfer from Amsterdam-Rotterdam Bank to Petty Cash	109,85
Erroneous debits	14,08
Bank charges and losses	29,30
Total for 1971	409,03

Other expenses in 1972	\$ U.S.
Participation expenses of Assistant General Secretary	442,70
Transfer from Amsterdam-Rotterdam Bank to Petty Cash	148,15
Erroneous debit	84,03
Bank charges	38,73
Total for 1972	713,61

*Recapitulation:*

Other expenses in 1970	\$34.784,21
1971	409,03
1972	713,61
Total	35.906,85

AUDIT FOR THE ACCOUNTS 1970-1972

Conformément à la mission que vous avez bien voulu nous confier, nous vous présentons le résultat de notre examen des comptes de l'Union Astronomique Internationale pour la période du 1 janvier 1970 au 31 décembre 1972.

L'examen, notamment, a porté sur les documents suivants:

- comptes des recettes et dépenses pour l'année 1970 vérifiés par nous-mêmes
- comptes des recettes et dépenses pour l'année 1971 vérifiés par nous-mêmes
- comptes des recettes et dépenses pour l'année 1972 vérifiés par nous-mêmes
- comptes des recettes et dépenses et situation des comptes bancaires pour la période de trois ans: 1970, 1971 et 1972.

Les comptes ont été comparés avec les cahiers de comptes, reçus et pièces comptables diverses.

Nous certifions que ces comptes sont en accord complet avec les informations et explications que nous avons demandées pour nous permettre d'effectuer notre examen.

Le compte, ci-inclus, des recettes et dépenses, résumant les comptes des années 1970, 1971 et 1972 est la représentation exacte des dépenses et recettes de l'Union Astronomique Internationale pour la période du premier janvier 1970 au trente et un décembre 1972.

A Paris, le 20 février 1973

ROGER BACLE m.p.  
H.E.C. - *Expert-Comptable*

CONCLUSION

The assets of \$137.793,66 U.S., as on 31 December 1972, compare well with those of \$113.261,57 U.S., as on 31 December 1969 (\$112.916,59, as on 1 January 1970, due to the change of the conversion rate of the French franc): the balance in hand is \$24.877,07 U.S.

The budget approved by the XIVth General Assembly for the years 1971-1973 provided for an expenditure of \$225.000 U.S. balanced by an income of \$225.000 U.S. This budget, compared with the actual receipts and payments of the years 1971 and 1972, gives the balance for the year 1973 as follows:

	Receipts in \$U.S.	Payments in \$U.S.
Budget 1971–1973, as approved by the XIVth General Assembly (UNESCO contracts not included)	225.000,00	225.000,00
Actual figures for 1971 and 1972 (adjusted and UNESCO contracts excluded)	– 174.248,73	– 153.520,37
	<u>50.751,27</u>	<u>71.479,63</u>
Excess of receipts over payments	20.728,36	
	<u>71.479,63</u>	<u>71.479,63</u>
Total		
Available for payments in 1973 – \$20.728,36 U.S.		

The budgetary estimates for 1973, with due regard to the first devaluation of the U.S. dollar, are as follows:

## Budget 1973

Receipts in U.S. dollars		Payments in U.S. dollars	
1. Contributions from Adhering Countries	91.200	1. Administrative Office	29.700
2. Revenue from IAU publications	11.600	2. Contribution to ICSU	2.150
3. Interest on accounts	3.300	3. Commission expenses	300
4. UNESCO subvention through ICSU	14.000	4. Specific projects	15.400
		5. General Assembly	49.500
		6. IAU Publications	7.700
Total	<u>120.100</u>	7. Free copies to developing countries	7.150
		8. Executive Committee	0
		9. Officers' meetings	3.850
		10. Symposia and Colloquia	21.000
		11. Inter-Union Commissions	4.500
		12. Projects approved by the Executive Committee	800
		13. Representation	500
		14. Bank charges and losses	300
		15. Young Astronomers' school	6.600
		Total	<u>149.450</u>
		Receipts	<u>120.100</u>
		Excess of payments over receipts	29.350
		Available from 1972 (about)	<u>20.720</u>
		To be taken from reserves	8.630

*Explanatory notes:**Receipts*

- The figure of \$91.200 U.S. also includes \$15.351,25 U.S. outstanding for 1972. All contributions not paid before the devaluation of the U.S. dollar have been augmented by 10 per cent.
- D. Reidel Publishing Company owes the Union about \$7.150 U.S. on royalties for the second half of 1971. From figures available on sales over 1972 it is safe to assume that \$4.450 U.S. will be payable in 1973.
- The sum of \$3.000 U.S. represents interest earned in 1972. In 1973 they may be somewhat higher if the rate of interest does not drop.
- UNESCO subvention through ICSU: The grant of \$14.000 U.S. has already been allocated for 1973.

*Payments*

1. Administrative Office: \$27,000 U.S. are the difference between the amounts budgeted for 1970–1973 and those actually paid. Raised by 10% they give \$29,700 U.S.
2. Contribution to ICSU: has been set at 2.5% of the annual fees received from Adhering Countries. It had been paid before the devaluation of the U.S. dollar.
3. Commission expenses: are expected to be negligible
4. Specific Projects: see table on page 14. The balance for 1973 has been adjusted to account for the devaluation.
5. General Assembly: The estimate of \$49,500 U.S. (adjusted) is rather vulnerable as it depends on a range of variable factors. The reserve of \$10,000 U.S. at the disposal of the General Secretary should be considered as a reserve against underestimates (reserve approved by the XIVth General Assembly).
6. IAU Publications: The amount of \$7,700 U.S. covers the production and distribution of 4 Information Bulletins (\$1,650 U.S. each) and the printing of the Report of the Executive Committee.
7. Free copies to developing countries: Seven volumes of Symposium proceedings will have to be distributed free of charge in 1973 (about \$990 U.S. each).
8. Executive Committee: The costs of the 37th and 38th meetings of the Executive Committee are included in those of the XVth General Assembly (heading 5).
9. Officers' meetings: The officers are likely to be farther apart after the General Assembly. This accounts for the increase of about \$770 U.S. over the expenditure in 1972.
10. Symposia and Colloquia: 11 symposia (\$1,775 U.S. each on the average) and 1 colloquium (\$500 U.S.) will be held in 1973. \$1,000 U.S. have been committed as an IAU contribution to the Copernicus Symposium cosponsored by the Union.
11. Inter-Union Commissions: The contribution to CIES had to be increased by \$200 for 1973. This accounts for the \$4,500 U.S. instead of the \$4,300 U.S. as in 1972.
- 12, 13, 14 Expenditure under these headings is expected to be negligible.
15. Young Astronomers' Schools: Nine Member Countries increased their categories of adherence in response to the General Secretary's appeal. The organization of a School for Young Astronomers in 1973 is therefore within the intentions of the XIVth General Assembly.

The Finance Committee, to convene during the XVth General Assembly, will be asked to endorse the budgetary estimate for 1973, as proposed above, and to approve a comprehensive budget for the years 1974–1976 to be submitted to the General Assembly.



## APPENDIX

### A. LIST OF COUNTRIES ADHERING TO THE UNION

The following is a list of the 46 countries that adhered to the IAU in December 1972, giving also the year of admission, the approximate number of Members, and the Adhering Organizations.

Country	Year	Members	Adhering Organization
Argentina	1927	16	Comité Nacional de Astronomía, La Plata.
Australia	1939	57	Australian National Committee for Astronomy, Sydney.
Austria	1955	15	Österreichische Akademie der Wissenschaften, Wien.
Belgium	1920	54	Académie Royale de Belgique, Bruxelles; Koninklijke Academie van België, Brussel.
Brazil	1961	9	Comissão Brasileira de Astronomia, Conselho Nacional de Pesquisas, Rio de Janeiro.
Bulgaria	1957	8	Bulgarian Academy of Sciences "7 November", Sofia.
Canada	1920	87	National Committee of Astronomy for Canada, Department of Geophysics and Astronomy, University of British Columbia, Vancouver 8, B. C.
Chile	1947	6	Universidad de Chile, Santiago de Chile.
Colombia	1967	1	Academia Colombiana de Ciencias Exactas, Físicas y Naturales, Bogotá.
Cuba	1970	0	Instituto de Astronomía de la Academia de Ciencias de Cuba, La Habana.
Czechoslovakia	1922	40	National Committee of Astronomy for Czechoslovakia, Czechoslovak Academy of Sciences, Praha.
Denmark	1922	17	Danish National Committee for Astronomy, det Kongelige Danske Videnskabernes Selskab, København.
Finland	1948	9	Finnish Academy of Sciences and Letters, Helsinki.
France	1920	162	Comité National Français d'Astronomie, Académie des Sciences, Paris.
F.R.G.	1951	128	Rat Westdeutscher Sternwarten zu München.
G.D.R.	1951	32	Akademie der Wissenschaften der DDR, Berlin.
Greece	1920	18	Greek National Committee for Astronomy, Academy of Athens, Athens.
Hungary	1947	11	Hungarian Academy of Sciences, Budapest.
India	1948	47	Indian National Science Academy, New Delhi, Indian National Committee for the IAU.
Iran	1969	0	Tehran University, Tehran.
Ireland	1947	6	National Committee of Astronomy, Royal Irish Academy, Dublin.
Israel	1954	13	The Israel Academy of Sciences and Humanities, Jerusalem.
Italy	1921	76	Consiglio Nazionale delle Ricerche, Roma.
Japan	1920	106	National Committee of Astronomy for Japan, Science Council of Japan, Tokyo.
Korea (PDR)	1961	3	Academy of Sciences, Phyongyang.
Mexico	1921	13	Universidad Nacional de Mexico, Mexico D.F.
Netherlands	1922	58	Koninklijke Nederlandse Akademie van Wetenschappen, Amsterdam.
New Zealand	1964	5	Royal Society of New Zealand, Wellington.
Norway	1922	13	Det Norske Videnskaps-Akademi i Oslo, Oslo.

Country	Year	Members	Adhering Organization
Poland	1922	40	Polska Akademia Nauk, Warszawa.
Portugal	1924	12	Secção Portuguesa das Uniões Internacionais Astronómica, Geodésica e Geofísica, Lisboa.
Roumania	1928	17	Romanian National Committee of Astronomy, Bucarest.
South Africa	1938	13	Council for Scientific and Industrial Research, Pretoria.
Spain	1922	14	Comisión Nacional de Astronomía, Madrid.
Sweden	1925	41	Kungl. Vetenskaps-Akademien, Stockholm.
Switzerland	1923	20	Schweizerische Naturforschende Gesellschaft, Basel.
Taiwan	1959	9	Academia Sinica, Nankang, Taipei.
Turkey	1961	18	Türk Astronomi Dernegi, Istanbul.
U.A.R.	1925	9	National Committee of Astronomy, Helwan Observatory, Helwan near Cairo.
United Kingdom	1920	225	The Royal Society, London.
Uruguay	1970	0	Comité Nacional de Astronomia, Facultad de Ingeniería y Agrimensura, Montevideo.
U.S.A.	1920	712	The National Academy of Sciences, Washington D.C.
U.S.S.R.	1935	343	Academy of Sciences of the U.S.S.R., Moscow.
Vatican City State	1932	7	Pontificia Academia delle Scienze, Città del Vaticano.
Venezuela	1953	2	Academia de Ciencias Físicas, Matemáticas y Naturales, Caracas.
Yugoslavia	1935	14	Savez društava matematičara, fizičara i astronoma Jugoslavije, Zagreb.

## B. LIST OF DECEASED MEMBERS

The Executive Committee regrets to record the loss by death of the following 58 Members of the Union (at the date of 1 May 1973):

Alexander A. F. O'D	29 January 1971	Guigay G.	19 January 1971
Alter G. A.	30 October 1972	Günther O.	8 January 1973
Arbey L. M. J.	27 March 1972	Harang L.	21 September 1970
Baker R. H.	23 June 1964	Hargreaves F. J.	September 1970
Baltá-Eliás J.	3 January 1973	Heiskanen V. A.	23 October 1971
Banerji A. C.	in 1972	Hellman C. D.	28 March 1973
Barabashov N. P.	29 April 1971	Mrs Herzberg L. H.	3 June 1971
Barros M. G. de Perreira	15 January 1971	Humason M. L.	18 June 1972
Berkner L. V.	4 June 1967	Joy A. H.	18 April 1973
Bernas R.	July 1970	Kahrstedt A.	11 January 1971
Bowen I. S.	6 February 1973	Kao Ping-Tse	23 March 1970
Cameron R. C.	13 December 1972	König A.	in 1970
Cox J. F. J. G.	20 October 1972	Kox H.	7 June 1971
De Moraes A.	in 1970	Lindley W. M.	2 September 1972
Dick J.	22 March 1971	Luplau Janssen C. E.	21 June 1971
Dombrovskij V. A.	1 February 1972	Minnaert M. G. J.	26 October 1970
Eckert W. J.	October 1971	Narayan A. L.	6 March 1973
Febrer J.	date unknown	Nordström H.	28 July 1971
Fesenkov V. G.	13 March 1972	Nowacki H.	20 March 1972
Gamow G.	20 August 1968	Ölander V. R.	8 March 1973
Grandón R.	3 April 1971	Ramsey W. H.	1 January 1970
Grigoryan K. A.	September 1971	Rutlant F.	16 April 1971

Sarabai V. A.	30 December 1971	Väisälä Y.	21 July 1971
Sémirot P.	30 January 1972	Van Albada G. B.	18 December 1972
Sibahara R.	10 December 1971	Van Schewich H.	6 September 1972
Sterne T. E.	7 February 1970	Van Wijk U.	date unknown
Stewart J. Q.	19 March 1972	Vitkevich V. V.	29 January 1972
Stumpff K.	10 November 1970	Watts C. B.	17 July 1971
Tardi P.	5 August 1972	Wilkens A.	27 January 1968
Thomson J. H.	12 August 1969	Zanstra H.	3 October 1972
Tilles D.	30 March 1968	Zinner E.	30 August 1970

## C. LIST OF IAU PUBLICATIONS

*Transactions of the IAU*, volume XIVA, pp. VIII+566, price \$18,20 (Members \$12,20)

*Transactions of the IAU*, volume XIVB, pp. IX+378, price \$14 (Members \$9,35)

*Highlights of Astronomy as presented at the XIVth General Assembly of the IAU 1970*, pp. XII+793, price \$40 (Members \$26,70)

Editor: C. de Jager. Published by D. Reidel Publishing Company, Dordrecht, Holland.

Editors: C. de Jager and A. Jappel. Published as *Transactions*, vol. XIVA.

Edited and published as *Transactions*, vol. XIVA.

*IAU Symposium Volumes*

No. 36. *Ultraviolet Stellar Spectra and Related Ground-Based Observations*, pp. XV + 361, price \$19,80 (Members \$13,20)

No. 37. *Non Solar X- and Gamma-Ray Astronomy*, pp. X+425, price \$23,10 (Members \$15,40)

No. 38. *The Spiral Structure of our Galaxy*, pp. XIII+478, price \$24,40 (Members \$16,30)

No. 39. *Interstellar Gas Dynamics*, pp. XXIV + +388, price \$25 (Members \$16,70)

No. 40. *Planetary Atmospheres*, pp. XVIII+408, price \$25 (Members \$16,70)

No. 41. *New Techniques in Space Astronomy*, pp. XV+417, price \$26,40 (Members \$17,60)

No. 42. *White Dwarfs*, pp. IX+164, price \$11,75 (Members \$8,95)

No. 43. *Solar Magnetic Fields*, pp. XVI+782, price \$46,20 (Members \$30,80)

No. 44. *External Galaxies and Quasi-Stellar Sources*, pp. XVII+550, price \$33 (Members \$22)

No. 45. *The Motion, Evolution of Orbits, and Origin of Comets*, pp. XXII+521, price \$39 (Members \$26)

No. 46. *The Crab Nebula*, pp. XX+470, price \$25 (members \$16,70)

No. 47. *The Moon*, pp. XVI+471, price \$36 (Members \$24)

No. 48. *Rotation of the Earth*, pp. XXII+244, price \$19 (Members \$13)

Edited by L. Houziaux and H. E. Butler. Published by D. Reidel Publishing Company, Dordrecht, Holland.

Editor: L. Gratton. Published by D. Reidel's.

Editors: W. Becker and G. Contopoulos. Published by D. Reidel's.

Editor: H. J. Habing. Published by D. Reidel's.

Editors: C. Sagan, T. C. Owen, and H. J. Smith. Published by D. Reidel's.

Editors: F. Labuhn and R. Lüst. Published by D. Reidel's.

Edited by W. J. Luyten. Published by D. Reidel's.

Editor: R. F. Howard. Published by D. Reidel's.

Edited by D. E. Evans. Published by D. Reidel's.

Editors: G. A. Chebotarev, H. J. Kazimirchak Polonskaya, and B. G. Marsden. Published by D. Reidel's.

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Editors: S. K. Runcorn and H. C. Urey. Published by D. Reidel's.

Editors: P. Melchior and S. Yumi. Published by D. Reidel's.

*IAU Colloquium Volumes*

No. 3. *Interstellar Dust*

No. 4. *Stellar Rotation*, price \$19,80

No. 5. *La cohésion entre les différentes procédés de mesure d'étoiles doubles*

No. 6. *Mass Loss and Evolution in Close Binaries*, price \$5

No. 7. *Proper Motions*

No. 8. *Techniques for the Measurement of Fundamental Spectroscopic Data*

No. 9. *The IAU System of Astronomical Constants*

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No. 15. *New Directions and Frontiers in Variable Star Research*

M. Greenberg and H. Lambrecht. *Astronomische Nachrichten* 293, Nos. 1–2, 1971.

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K. Gyldenkerne and R. M. West. Obtainable from Copenhagen University Fund, Københavns Universitet.

W. J. Luyten. University of Minnesota, Minneapolis. December 1970.

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C. L. Hemenway and A. F. Cook. To be published as NASA Report.

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W. Strohmeier. *Remeis-Sternwarte Bamberg, Astronomisches Institut der Universität Erlangen-Nürnberg* 9, Nr. 100, 326, 1972

*Publications*

by, or on behalf of, IAU Commissions and by Astronomical Services

Commission No. 6. IAU (Telegram Bureau)

*Circulars* Nos. 2197–2475 - 2476 - 2833

Commission No. 10. *Cartes Synoptiques de la Chromosphère Solaire* (Volume V, fascicules IV, 2, 3)

Commission No. 16. *Newsletters* Nos. 7-10-11

Commission No. 19. *Monthly Notes of the IPMS* Nos. 1 (1970)–10 (1972) | 11 (1972)–10 (1975)

Commission No. 20. *Minor Planet Circulars*

Nos. 3023–3406 3407–3908

Commission No. 24. *Astrographic Catalogues*

Commission No. 26. *Circulaire d'Information*

Nos. 50–58. - 59-67

Commission No. 27. *Information Bulletin on Variable Stars* Nos. 397–752

Issued by the IAU Central Bureau for Astronomical Telegrams.

Prepared by Observatoire de Paris at Meudon under the direction of R. Michard.

Published by the President of Commission.

Published by International Polar Motion Service, Mizusawa-shi, Japan.

Mimeographed circulars issued by the Minor Planet Center, Cincinnati.

Information regarding the different sections of the Catalogue can be obtained from respective Observatories listed in *Transactions IAU XIVB*, 176, 177, 1971.

President: J. Dommanget, Observatoire Royal de Belgique, Brussels, Belgium.

Prepared by L. Detre, Konkoly Observatory, Budapest, Hungary.

Commission No. 31. *Annual Report of the BIH*

Commission No. 35. *Circular Letters* up to No. 16

Commission No. 41. *Bibliography of Books and Papers published in 1968–69 (1970) and 1969–71 (1972) on the History of Astronomy*

Commission No. 41. *Information. Circulars* 18–21 22–25

*IAU Information Bulletin* Nos. 24–29

Published by the Bureau International de l'Heure, Paris, France.

Editor: A. Massevich, Astronomical Council of the U.S.S.R. Academy of Sciences, Moscow, U.S.S.R.

Editor: Z. K. Sokolovskaya, Institute of History of Sciences and Technology, Moscow, U.S.S.R.

Published by the President of the Commission.

Prepared by the General Secretary.

