

### III.

#### REPORT OF THE EXECUTIVE COMMITTEE

##### Executive Committee 1976-1978

###### PRESIDENT

Professor Dr A. Blaauw, Sterrewacht, Postbus 9513,  
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###### VICE-PRESIDENTS

Mr J.G. Bolton, C.S.I.R.O., Division of Radiophysics, P.O. Box 276  
Parkes, Epping, N.S.W. 2870, Australia.  
Professor Ch. Fehrenbach, Directeur de l'Observatoire de Haute Provence,  
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Professor S. van den Bergh, Director, Dominion Astrophysical  
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###### GENERAL SECRETARY

Professor Edith A. Müller, Observatoire de Genève, CH-1290 Sauverny,  
Switzerland.

###### ASSISSTANT GENERAL SECRETARY

Professor P.A. Wayman, Director, Dunsink Observatory,  
Castleknock, Co. Dublin, Ireland.

###### ADVISERS TO THE EXECUTIVE COMMITTEE

Professor L. Goldberg, Kitt Peak National Observatory, P.O. Box 26732,  
Tucson, AZ 85726, U.S.A. - former President  
Professor Dr G. Contopoulos, Astronomy Department,  
Panepistimiopolis, Athens 621, Greece.

###### INTRODUCTION

The present report covers the period from 1 January 1976 to 31 December 1978. The period under report includes the first eight months of the year 1976 (until 2 September) which fell under the responsibility of the former Executive Committee, but it does not include the first eight months of 1979, still within the responsibility of the present Executive Committee. An oral report for the period from 1 January until 13 August 1979 will be presented at the XVIIth General Assembly.

## ADMINISTRATION

*Executive Committee*

The 41st meeting of the Executive Committee, in its former composition, was held in the course of the XVth General Assembly with sessions on 23 and 31 August 1976. It was presided over by the former President of the IAU, Professor L. Goldberg, and attended by all members and the advisers. The former Vice-President, Prof. B.J. Bok, the President elect, Prof. A. Blaauw, and the Assistant General Secretary elect, Prof. P.A. Wayman, also participated in the meeting.

The Executive Committee, in its present composition, held its 42nd meeting in Grenoble, France, on 2 September 1976. It was chaired by the President of the Union, Prof. A. Blaauw. All members and the advisers attended the meeting. Further, the Executive Committee held the following meetings:

The 43rd meeting at the Observatoire de Genève, Sauverny, Switzerland, from 29 August to 2 September 1977. All members and the advisers were present.

The 44th meeting in Dublin, Ireland, from 15 to 19 August 1978. All members and the advisers participated in the meeting.

*Officers' Meetings*

The President of the Union, the General Secretary and the Assistant General Secretary (Officers) met as follows: in Leiden, The Netherlands, on 5 and 6 November 1976; in Norg, The Netherlands, on 1 and 2 May 1977; in Geneva, Switzerland, on 28 August 1977; in Geneva, Switzerland, on 10 and 11 May 1978; and in Dublin, Ireland, on 14 August 1978.

*Adhering Countries*

Iraq has been admitted to the IAU by the XVth General Assembly as the Union's 48th Adhering Country.

*Members of the IAU*

The number of IAU Members was 3127 as on 1 April 1976. At the XVth General Assembly 722 new Members were admitted and 16 names were deleted from the membership list. In the meantime the decease of 50 Members were communicated to the General Secretary. Thus the IAU had 3783 Members on 31 December 1978.

*Consultants to IAU Commissions*

The 40 IAU Commissions had a total of 192 consultants as at 31 December 1978.

*Commissions of the IAU*

The Transactions of the IAU, volume XVIIIA, subtitled "Reports on Astronomy 1979", published in three parts, include the reports as prepared by each of the 40 Presidents of IAU Commissions, assisted by their Vice-Presidents, Organizing Committees, Chairmen of Working Groups formed within the Commissions, and by the Commission members themselves. They also contain the report of the Working Group for Planetary System Nomenclature, as prepared by the Chairman of that Working Group.

A number of Working Groups were formed in various Commissions, such as the Working Group on Nutation in Commission No. 4, the Working Group on Cartographic

Coordinates and Rotational Elements of Planets and Satellites jointly by Commissions 4 and 16, the Preliminary Working Group on Solar Activity Index in Commission 10, and the Working Group on the Solar Maximum Year also in Commission 10.

The Minor Planet Center, directed for over 30 years, in a most efficient and excellent way, by Dr P. Herget at the Cincinnati Observatory, was moved to the Smithsonian Observatory, Cambridge, Massachusetts and is now directed by Dr B.G. Marsden. The Executive Committee takes this opportunity to express to Dr P. Herget the thanks of the Union for his outstanding work and his great service to Astronomy.

Following the resignation of Professor M. Waldmeier from the editorship of the Quarterly Bulletin on Solar Activity (QBSA) this function has been entrusted to Dr F. Moriyama of the Tokyo Astronomical Observatory. The Executive Committee wishes to express to Professor M. Waldmeier the thanks of the Union for the service he rendered over many years to the scientific community studying the Sun and Solar-Terrestrial Relations.

On account of illness, Prof. B.E. Markarian resigned as President of IAU Commission No. 28. The Executive Committee appointed Prof. B.E. Westerlund, Vice-President of the Commission, to Acting President.

Dr G.A. Wilkins has succeeded Miss C.J.A. Penny as member of the Organizing Committee of Commission No. 31.

The President of IAU Commission No. 38, Prof. D.A. MacRae prepared rules for operating the project Exchange of Astronomers. These rules, approved by the Executive Committee, have been published in IAU Information Bulletin No. 39.

The Vice-President of IAU Commission No. 50, Prof. F.G. Smith has prepared a Report and Recommendations of Commission 50 regarding Identification and Protection of Existing and Potential Observation Sites. This printed report, produced with financial aid of UNESCO, has been distributed to National Committees of Astronomy and to a number of Observatories for whom the report might be useful. The report deals with the acceptable levels of artificial lighting, the acceptable levels of radio frequency interference, absorption due to atmospheric pollution, interference from aircraft, and contains practical recommendations.

Commissions have co-opted a number of new members from among IAU Members, and new consultants from among non-members. These co-options have been approved by the Executive Committee. Between the General Assemblies, many Commissions organized Symposia and Colloquia, and other projects financially supported by the IAU, as follows:

#### SYMPOSIA

*IAU Symposia (held between 1 January 1976 and 31 December 1978)*

- IAU Symposium No. 74 "Radio Astronomy and Cosmology", Cavendish Laboratory, Cambridge, U.K., 16-20 August 1976
- IAU Symposium No. 75 "Star Formation", University of Geneva, Geneva, Switzerland, 6-10 September 1976
- IAU Symposium No. 76 "Planetary Nebulae", Ithaca, N.Y., U.S.A., 6-10 June 1977
- IAU Symposium No. 77 "Structure and Properties of Nearby Galaxies", Bad Münstereifel, Germany F.R., 22-26 August 1977
- IAU Symposium No. 78 "Nutation and the Earth's Rotation", Kiev, U.S.S.R., 23-28 May 1977
- IAU Symposium No. 79 "The Large-Scale Structure of the Universe", Tallinn, U.S.S.R., 12-16 September 1977
- IAU Symposium No. 80 "The H.R. Diagram", Washington, D.C., U.S.A., 2-5 November 1977
- IAU Symposium No. 81 "Dynamics of the Solar System", Tokyo, Japan,

23-26 May 1978

- IAU Symposium No. 82 "Time and the Earth's Rotation", Cadiz, Spain,  
8-12 May 1978
- IAU Symposium No. 83 "Mass-Loss and Evolution of O-Type Stars",  
Qualicum Beach, Vancouver Is., Canada, 5-9 June 1978
- IAU Symposium No. 84 "The Large-Scale Characteristics of the Galaxy",  
College Park, Maryland, U.S.A., 12-17 June 1978
- IAU Symposium No. 89 "Refractional Influences in Astronomy and  
Geodesy", Uppsala, Sweden, 1-5 August 1978

*Symposia with IAU Participation*

- COSPAR/IAU/URSI Symposium "Infrared and Sub-millimeter Astronomy",  
Philadelphia, Pennsylvania, U.S.A., 8-12 June 1976
- COSPAR/IAU/IUGG Symposium "Scientific Applications of Lunar Laser  
Ranging (SALUR)", Austin, Texas, U.S.A., 8-10 June 1976
- SCOSTEP/COSPAR/IAU/IUGG Symposium "The Study of Travelling Inter-  
planetary Phenomena", Tel-Aviv, Israel, 7-10 June 1977
- COSPAR/IAU Symposium "New Instrumentation for Space Astronomy",  
Tel-Aviv, Israel, 8-10 June 1977
- COSPAR/IAU/IUB/IUGG Symposium "Viking Experiments", Tel-Aviv, Israel,  
9 and 10 June 1977
- COSPAR/IAU/IUGG/IUGS/IUTAM/URSI Symposium "Planetary Surfaces and  
Atmospheres", Innsbruck, Austria, 29 May-1 June 1978
- COSPAR/IAU Symposium "100 Years of Lunar Mapping", Lagonissi,  
Greece, 25-27 May 1978
- SCOSTEP/IAU Symposium "Solar-Terrestrial Physics", Innsbruck,  
Austria, 29 May-3 June 1978
- SBARMO/COSPAR/IAU/IUPAP Symposium "Scientific Use of Balloons and  
Related Technical Problems", Innsbruck, Austria, 8 and 9 June 1978

COLLOQUIA

*IAU Colloquia (held between 1 January 1976 and 31 December 1978)*

- IAU Colloquium No. 35 "The Compilation, Critical Evaluation and Distribu-  
tion of Stellar Data", Strasbourg, France, 19-21 August 1976
- IAU Colloquium No. 36 "Energy Balance and Hydrodynamics of the Solar  
Chromosphere and Corona", Nice, France, 6-10 September 1976
- IAU Colloquium No. 37 "Redshift and Expansion of the Universe",  
Paris, France, 6-9 September 1976
- IAU Colloquium No. 38 "Problems of Stellar Convection", Nice,  
France, 16-20 August 1976
- IAU Colloquium No. 39 "Relationship between Comets, Minor Planets  
and Meteorites", Lyon France, 17-20 August 1976
- IAU Colloquium No. 40 "Astronomical Applications of Image Detector  
with Linear Response", Meudon, France, 6-8 September 1976
- IAU Colloquium No. 41 "Dynamics of Planets and Satellites and Theories  
of their Motion", Cambridge, U.K., 17-19 August 1976
- IAU Colloquium No. 42 "The Interaction of Variable Stars with their  
Environment", Bamberg, Germany F.R., 6-9 September 1977
- IAU Colloquium No. 43 "Ultraviolet and X-Ray Spectroscopy of Astrophysical and  
Laboratory Plasmas" (Fifth Conference), London, U.K., 4-7 July 1977
- IAU Colloquium No. 44 "Solar Prominences", Oslo, Norway, 14-17  
August 1978
- IAU Colloquium No. 45 "Chemical and Dynamical Evolution of the  
Galaxy", Toruń, Poland, 7-9 September 1977

- IAU Colloquium No. 46 "Changing Trends in Variable-Star Research",  
Hamilton, New Zealand, 27 November-1 December 1978
- IAU Colloquium No. 47 "Spectral Classification of the Future",  
Vatican City State, 11-15 July 1978
- IAU Colloquium No. 48 "Modern Astrometry", Vienna, Austria,  
12-14 September 1978
- IAU Colloquium No. 49 "Formation of Images from Spatial Coherence Functions  
in Astronomy", Groningen, The Netherlands, 10-12 August 1978
- IAU Colloquium No. 50 "High Angular Resolution Stellar Interferometry",  
College Park, Maryland, U.S.A., 30 August-1 September 1978
- IAU Colloquium No. 52 "Protostars and Planets", Tuscon, Arizona,  
U.S.A., 3-7 January 1978

#### *Specific Projects of Commissions*

The list of Specific Projects of Commissions as approved by the XVth General Assembly is given together with the corresponding expenditure in the report on the financial situation of the Union (page ). These projects are continuations of previous projects and do not therefore need any further comments.

#### *Regional Astronomy Meetings held under the auspices of the IAU*

- First Latin-American Regional Astronomy Meeting, Santiago,  
Chile, 16-21 January 1978
- Fourth European Regional Astronomy Meeting, Uppsala, Sweden,  
7-12 August 1978
- First Asian-South Pacific Regional Astronomy Meeting, Wellington,  
New Zealand, 5-8 December 1978

#### *Young Astronomers' Schools*

IAU Commission No. 46 "Teaching of Astronomy" organized two schools for young astronomers in the course of 1977 and 1978.

The school at the National Observatory, Rio de Janeiro, Brazil, from 21 November to 22 December 1977 was attended by 29 astronomers from Argentina, Bolivia, Brazil, Colombia, Paraguay, Peru and Portugal. The curriculum included Astronomical Instruments and Technology, Stellar Astrophysics, Interstellar Matter, Variable Stars, Extra-Galactic Astronomy, Structure and Evolution of the Universe, and Data Processing.

The school at the University of Nigeria, Nsukka, Nigeria, from 31 July to 19 August 1978, was attended by 28 physicists (lecturers and professors) from Ghana, Kenya, Nigeria and Tanzania. The curriculum included Spherical Astronomy, Planetary System, Solar Physics, Solar Energy Utilization, Stars and Galaxies, Structure and Evolution of the Universe, Practical Astronomy, Seminars and General Discussions on astronomical problems.

#### *IAU Publications*

From the fall of 1976 on, all IAU publications, the Informations Bulletin included, have been produced by the offset method from camera-ready copies, which markedly reduced the retail price of the individual volumes. The Executive Committee wishes to express its thanks to all those who cooperated in the fine preparation of the camera-ready manuscripts.

The Secretariat continued to sell IAU Transactions, Highlights and Symposium volumes to 14 institutions in developing countries at 20% of the retail price of the volumes.

The Publications of the IAU continue to be produced by the D. Reidel Publishing Company, Dordrecht, Holland, which pays the Union a 5% royalty. The publisher also finances the production of the publications, with the exception of that of the Information Bulletin which is financed by the IAU.

*Sales of IAU Publications*

The Transactions of the IAU sold as follows in the course of the period under report:

	Number of Copies
Vol. XIII A	20
Vol. XIII B	13
Vol. XIV A	17
Vol. XIV B	17
Vol. XV A	24
Vol. XV B	54
Vol. XVI A	134
Vol. XVI B	538

The volumes of Highlights of Astronomy were sold as follows over the same period:

	Number of Copies
Highlights I	23
Highlights II	58
Highlights III	95
Highlights IV	877

The sales of Symposium volumes in 1976, 1977 and 1978 were:

Symposium volume No. (in number of copies)

32-34	44-73	56-72	68-154
33-1	45-47	57-46	69-239
34-31	46-26	58-166	70-561
35-24	47-27	59-92	71-608
36-14	48-79	60-62	72-587
37-24	49-65	61-77	73-428
38-37	50-80	62-76	74-678
39-29	51-131	63-241	75-799
40-32	52-98	64-157	76-486
41-33	53-83	65-48	77-513
42-49	54-73	66-126	
43-30	55-69	67-238	79-555
			80-432

The Proceedings of Symposium No. 78 have not yet been published. For illustration, it should be noted that the total of volumes sold in the course of the period under report was 8.963 copies as against 15.459 copies sold in the preceding period of 3 years.

*Information Bulletin*

The Information Bulletin has been prepared, edited and typed for offset reproduction by the General Secretary and the staff of the IAU secretariat, and printed and distributed by the publisher of the Union. It has appeared twice a year and

has been sent, free of charge, to IAU Members, consultants, members of the International Science Writers Association, and to selected international organizations and institutions.

## RELATIONS TO OTHER ORGANIZATIONS

### *IAU Representation*

1. International Council of Scientific Unions (ICSU). The General Secretary attended the 16th General Assembly of ICSU which together with the meeting of the General Committee was held in Washington, D.C., U.S.A. from 9 to 15 October 1976. The General Secretary also represented the Union at the meeting of the ICSU General Committee in Budapest, Hungary, from 7 to 9 September 1977 and at the 17th General Assembly of ICSU which was held in Athens, Greece, from 24 to 29 September 1978. At this General Assembly, Prof. C. de Jager, former General Secretary of the IAU, has been elected President of ICSU.

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

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

- (a) Committee on Space Research (COSPAR): Edith Müller
- (b) ICSU-Abstracting Board (IAB): J.C. Pecker
- (c) Federation of Astronomical and Geophysical Services (FAGS): H. Enslin and Edith Müller  
which includes the following four services of interest to astronomy:
  - (i) Bureau International de l'Heure (BIH): H. Enslin and Edith Müller
  - (ii) International Polar Motion Service (IPMS): S. Yumi
  - (iii) International Ursigram and World Day Service (IUWDS): V. Bumba
  - (iv) Quarterly Bulletin on Solar Activity (QBSA): IAU Commission No. 10
- (d) Inter-Union Committee on Frequency Allocation for Radio Astronomy and Space Science (IUCAF): G. Westerhout and R. Wielebinski
- (e) Scientific Committee on Solar-Terrestrial Physics (SCOSTEP): Z. Svestka
- (f) Scientific Committee on Problems of the Environment (SCOPE): R. Cayrel and J.C. Pecker
- (g) Committee on the Teaching of Science (CTS): L.N. Houziaux
- (h) Committee on Data on Science and Technology (CODATA): G.A. Wilkins
- (i) Inter-Union Commission on Spectroscopy (IUCS): B. Edlén, J.G. Philips and M.J. Seaton

### *Other Organizations*

The Union is represented in the following organizations:

- (a) Le Comité Consultatif pour la Définition de la Seconde (CCDS) du Bureau International des Poids et Mesures: Wm. Markowitz
- (b) Le Comité Consultatif pour la Définition du Mètre (CCDM) du Bureau International des Poids et Mesures: A.H. Cook
- (c) Le Comité Consultatif International des Radiocommunications (CCIR): F.G. Smith and H.M. Smith

- (d) Committee on Science and Technology in Developing Countries (COSTED):  
L.N. Houziaux
- (e) European Physical Society - Conference Committee (EPS):  
P.A. Wayman
- (f) Scientific Ballooning and Radiations Monitoring Organization  
(SBARMO): P. Simon

## FINANCIAL REPORT

In accord with the policy adopted in 1961, the Executive Committee presents to the General Assembly a "Summarized Account of Receipts and Payments" for the years 1976, 1977 and 1978. The account is in Swiss francs, the figures in the U.S. dollar accounts and Dutch guilder accounts having been translated at the following ICSU conversion rates:

For the year 1976: \$ U.S. = 2.51 Dfl = 2.44 Sfrs  
 For the year 1977: \$ U.S. = 2.40 Dfl = 2.17 Sfrs  
 For the year 1978: \$ U.S. = 2.08 Dfl = 1.73 Sfrs

The conversion rates varying over the years under report account for the disparities between the closing balances in 1975, 1976 and 1977 and the opening balances in 1976, 1977 and 1978 respectively (in Swiss francs):

Closing Balance	Opening balance	Difference
1975 - 309 564.84	1976 - 295 814.03	13 750.81
1976 - 242 055.98	1977 - 229 796.41	12 259.57
1977 - 251 682.97	1978 - 232 409.36	19 273.61

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 14 (5 each in 1976 and 1977, and 4 in 1978) accounts of receipts and payments audited and certified as correct by the Union's chartered accountant. These accounts will be available for examination by the Finance Committee at the XVIIth General Assembly.

SUMMARIZED ACCOUNT OF RECEIPTS AND PAYMENTS (in Swiss francs)  
FOR THE TERM 1976 - 1978

## RECEIPTS

	Swiss francs	Swiss francs
1. Contribution from Adhering Countries		
1976	292 693.96	
1977	305 528.46	
1978	<u>320 119.94</u>	918 342.36
2. Revenue from IAU Publications		
1976	29 331.75	
1977	27 205.28	
1978	<u>21 163.69</u>	<u>77 700.72</u>



3. Interest on Current Accounts			
1976	3 963.34		
1977	3 518.75		
1978	<u>1 834.37</u>	9 316.46	
4. Grant from UNESCO Subvention to ICSU			
1976	29 280.00		
1977	36 866.28		
1978	<u>20 750.81</u>	86 897.09	
5. Other Receipts			
1976	186 697.39		
1977	43 953.85		
1978	<u>132 511.55</u>		363 162.79
	Total Receipts		<u>1 455 419.42</u>
	TOTAL		<u>1 455 419.42</u>

PAYMENTS

	Swiss francs	Swiss francs
1. Administrative Office		
1976	133 002.81	
1977	132 690.47	
1978	<u>137 879.86</u>	403 573.14
2. Contribution to ICSU		
1976	7 221.35	
1977	6 507.61	
1978	<u>7 638.21</u>	21 367.17
3. Commission Expenses		
1976	-	
1977	458.71	
1978	<u>2 895.01</u>	3 353.72
4. Specific Projects of Commissions Approved by the General Assembly		
4.1 Exchange of Astronomers		
1976	18 422.00	
1977	12 694.50	
1978	<u>4 671.00</u>	35 787.50
4.2 Other Projects		
1976	7 157.37	
1977	8 191.45	
1978	<u>5 839.82</u>	21 188.64
5. General Assembly		
1976	84 843.80	
1977	-	
1978	<u>-</u>	84 843.80
6. IAU Publications		
1976	13 941.60	
1977	16 850.41(5)	
1978	<u>25 848.50(4)</u>	56 640.52

7.	Distribution of IAU Publications (free and at reduced prices)		
	1976	27.47	
	1977	15 206.23	
	1978	<u>5 666.38</u>	20 900.08
8.	Executive Committee Meetings		
	1976	-	
	1977	22 470.89	
	1978	22 064.48	44 535.37
9.	Officers' Meetings		
	1976	11 180.62	
	1977	3 059.97	
	1978	<u>1 959.23</u>	16 199.82
10.	IAU Symposia and Colloquia		
	1976	18 355.90	
	1977	38 328.40	
	1978	<u>46 205.28</u>	102 889.58
11.	Inter-Union Commissions		
	1976	6 954.00	
	1977	5 644.98	
	1978	<u>5 034.30</u>	17 633.28
12.	Projects Authorized by the Executive Committee		
	1976	2 440.00	
	1977	3 982.00	
	1978	<u>-</u>	6 422.00
13.	Representation		
	1976	1 284.64	
	1977	5 795.35	
	1978	<u>3 802.83</u>	10 882.82
14.	Bank charges		
	1976	388.64	
	1977	179.81	
	1978	<u>271.13</u>	839.58
15.	Young Astronomers Schools		
	1976	-	
	1977	17 631.25	
	1978	<u>16 823.55</u>	34 454.80
16.	Regional Meetings		
	1976	-	
	1977	-	
	1978	17 700.13	17 700.13
17.	Other Payments		
	1976	290 504.28	
	1977	105 494.03	
	1978	<u>137 603.10</u>	533 601.41
	Total Payments		<u>1 432 813.37</u>
	Excess of Receipts over Payments		22 606.05
	TOTAL		<u><u>1 455 419.42</u></u>

## BANK ACCOUNTS as on 1 January 1976

	Swiss francs
Savings accounts	194 513.60
Current accounts	<u>295 814.03</u>
Total	490 327.63

## BANK ACCOUNTS as on 31 December 1978

Savings accounts	361 740.19
Current accounts	<u>286 886.90</u>
Total	648 627.09

TOTAL Balance on IAU accounts  
as on 31 December 1978

648 627.09

## Note:

The difference between the closing and opening balances 1976/1977 and 1977/1978 of the current accounts, in total Sfrs 31 533.18, corresponds to the difference between the balances of the current accounts 1976-1978,

8 927.13 (295 814.03 - 286 886.90)

and the excess of receipts

over payments 1976-1978	<u>22 606.05</u>
Total	<u>31 533.18</u>

The statement on pages 504-507 is a simple account of receipts and payments collected for convenience under a few headings. The following explanatory notes provide more detailed information on each item of the accounts.

*Receipts*

1. Contributions from Adhering Countries. The XVIth General Assembly, Grenoble, France, 1976, increased the unit of contribution payable by Adhering Countries to the IAU to 1 465.00 Swiss francs a year.

The 48 countries adhering to the Union as at 31 December 1978 were paying 216 units of contribution in 1976 and 220 units of contribution both in 1977 and 1978. Eighteen countries adhered in category 1 with 1 unit of contribution, 14 countries in category 2 with 2 units of contribution, 6 countries in category 3 with 4 units of contribution, 2 countries in category 4 with 6 units of contribution, 3 countries (from 1977 on 2 countries) in category 5 with 10 units of contribution, 1 country (from 1977 2 countries) in category 6 with 14 units of contribution, 3 countries in category 7 with 20 units of contribution, and 1 country in category 8 with 30 units of contribution.

Forty-six countries had paid their dues for up to 31 December 1978; 1 country in category 1 is for 4 years in arrear with its payments, and 1 country in category 1 owes the Union part of its dues for 1978.

2. Revenue from publications. About 93% of the receipts under this item are royalties paid to the IAU by the D. Reidel Publishing Company, Dordrecht, The Netherlands, for IAU publications sold; 7% of the income represents payments by institutions of developing countries for volumes sold to them at reduced prices. The royalties received from Academic Press, London, U.K., were negligible (Sfrs. 12.45).

3. Interest on accounts. Sfrs 9 316.46 were earned on the Union's current accounts over 1976-1978. The interest earned on the Union's savings account is not shown in the summarized account. The Union has at present 7 savings accounts, that is 4 in the U.S.A., 2 in Switzerland and 1 in The Netherlands. The total

## 4. SPECIFIC PROJECTS OF COMMISSIONS (all figures in Swiss francs)

Item. Comm.no.	Project	Paid in 1976	Allocation for 1977/79	Paid in 1977	Paid in 1978	Total paid 1977/1978	Total paid 1976/1978	Balance for 1979
4.1	Exchange of Astronomers	18 422.00	67 405.00	12 694.50	4 671.00	17 365.50	35 787.50	50 039.50
4.2	Other Projects							
4	Ephemerides	715.74	2 485.00	828.33	828.33	1 656.66	2 372.40	828.34
6	Telegram Bureau	1 610.40	5 595.00	1 658.61	1 486.83	3 145.44	4 755.84	2 449.56
16	Planetary Documentation, Meudon	1 520.94	5 290.00	1 763.33	1 763.33	3 526.66	5 047.60	1 763.34
17	Lunar Documentation, Meudon	1 520.94	5 285.00	1 761.33	1 761.33	3 522.66	5 043.60	1 762.34
20	Minor Planet Center	1 789.32	6 220.00	1 843.92	-	1 843.92	3 633.24	4 376.08
27	Variable Star Catalogue	-	9 330.00	335.93	-	335.93	335.93	8 994.07
TOTAL 4.2		7 157.34	34 205.00	8 191.45	5 839.82	14 031.27	21 188.61	20 173.73
TOTAL Specific Projects		25 579.34	101 610.00	20 885.95	10 510.82	31 396.77	56 976.11	70 213.23

interest earned on these accounts was Sfrs 40 442.46 over 1976-1978, while Sfrs 31 872.87 were earned in 1977 and 1978. Two of the four savings accounts in the U.S.A. and the two savings accounts in Switzerland were opened by the Executive Committee in office.

4. Grant from UNESCO subvention to ICSU. Detailed accounts of the expenditure of this grant are submitted to ICSU, for UNESCO, every year. The distribution of the grant is left to the IAU's discretion within specific UNESCO categories.

The allocations were: \$12 000.-U.S. for 1976, \$16 989.07 for 1977 (out of which \$5 000.-for IAU Commission No. 50 "Protection of Existing and Potential Observatory Sites"), and \$11 994.69 U.S. for 1978. \$16.24 were lost on bank charges and exchange differences.

5. Other receipts. This heading shows internal bank transfers, transient items, reimbursements, etc. The following is an analysis of the amounts Sfrs 186 697.39, Sfrs 43 953.85 and Sfrs 132 511.55 for the years 1976, 1977 and 1978 respectively:

*Other receipts 1976*

	Swiss francs
Internal transfers from current accounts	175 400.01
Erroneous credits	3 909.86
Rectification of erroneous debits	2 245.58
Refunds of unused IAU grants	4 987.68
Refund of balance from "Working Account XVI IAU General Assembly Grenoble"	154.26
Total	<u>186 697.39</u>

*Other receipts 1977*

Internal transfers	23 186.19
Receipt of undue payments	1 064.93
Refund of unused IAU travel grants	204.20
Erroneous credits	18 445.00
Rectification of erroneous debits	<u>1 053.53</u>
Total	<u>43 953.85</u>

*Other receipts 1978*

Erroneous credits	87 236.40
Franklin Mint for Silver Map project (Sfrs 9 556.50 + 20 000 U.S. x 1.73)	44 156.50
Reimbursement of tax on interest	488.65
Transfer to Petty-Cash, Lausanne	400.00
Refund of unused travel grant	<u>230.00</u>
Total	<u>132 511.55</u>

It is seen that the only effective major receipt under this heading is the donation of Sfrs 44 156.50 by the Franklin Mint Corporation. The other items are mostly internal transfers, erroneous credits and refunds which are balanced by corresponding payments and rectifications and cannot therefore be regarded as effective receipts.

The Franklin Mint donation will be used entirely for travel or subsistence grants to the XVIIth General Assembly in Montreal.

*Payments*

1. Administrative office. The expenses of the administrative office include salaries, social charges, health insurance and pension payments for the staff of the IAU Secretariat, audit fees, removal costs and small payments for stationery.

It should be noted that thanks to the Sterrewacht Leiden, the Dunsink Observatory and, in particular, to the Observatoire de Genève and the Institut d'Astronomie de l'Université de Lausanne, the Union paid no rent for office rooms, had free use of telephone, office material and copying facilities, paid no telegram charges and no postage. Thanks to the generous financial support of the Swiss Academy of Sciences (Société Hélivétique des Sciences Naturelles), secretarial and typing help was provided to the Union. In the name of the IAU the Executive Committee wishes to express its gratitude to these institutions.

2. Subscription to ICSU. The annual dues of the IAU to ICSU were 2.5% of the contributions from Adhering Countries for the year preceding payment.

3. Commission expenses. The amount of Sfrs 3 353.72 was spent on travel and living expenses of IAU Members representing IAU Commissions at various scientific meetings.

4. Projects of Commissions

4.1 Exchange of Astronomers, and

4.2 Other Projects. Details of the allocations made by the XVth General Assembly are on page 28 of IAU Transactions, volume XVIB for 1977-1979, and on page 50 of IAU Transactions, volume XVB for 1976. Actual payments are shown in the Table on page of the present Bulletin. The balances in favour of the Commissions in question may but need not be spent in 1979.

5. General Assembly. The expenses incurred with the XVth General Assembly of the IAU are given in great detail in the 1976 accounts. The \$33 000.--U.S. foreseen in the budget for the XVth General Assembly as approved in August 1973 were worth Sfrs. 92 400.-- at that time (\$1 U.S.= Sfrs. 2.80). They were worth Sfrs. 80 520.-- in August/September 1976 when the XVth General Assembly was held (\$1 U.S.=Sfrs. 2.44) and are, for comparison, worth Sfrs. 55 440.-- as of this day (\$1 U.S.=Sfrs. 1.68). The amount actually spent was Sfrs. 84 843.80. It includes travel and living expenses of the members of the Executive Committee, contributions partially to cover travel expenses of Commission Presidents, young astronomers' grants, local expenses in Grenoble, etc.

6. IAU Publications. The IAU only financed the production and distribution of the Information Bulletin. The Transactions, Highlights and Symposium volumes were financed by the IAU publisher. The payments under this heading were:

	Swiss francs
in 1976	
for production and distribution of IAU Information Bulletin, Nos. 34 and 35	13 941.60
in 1977	
for production and distribution of IAU Information Bulletin, Nos. 36 and 37	16 850.42
in 1978	
for production and distribution of IAU Information Bulletin, Nos. 38, 39 and 40	<u>25 848.50</u>
Total 1976-1978	<u>56 640.52</u>

7. Publications for developing countries. This item covers purchases by the Union of its publications at 60% of their retail prices for distribution as courtesy copies to members of the Executive Committee and Chairmen of the Scientific Organizing Committees of Symposia, and for sale at reduced prices to 14 institutions of some developing countries. Out of the amount of Sfrs. 20 900.08, roughly Sfrs. 9 753.-- were spent on volumes sent to developing countries from 1976 to 1978.

8. Executive Committee meetings. The costs of the 41st and 42nd meetings of the Executive Committee are included in those of the XVIth General Assembly under heading 4.

The amount of Sfrs. 44 535.37 spent for the 43rd and 44th meetings of the Executive Committee in 1977 and 1978 are well within the limit of Sfrs. 51 000.-- as in budget.

9. Officers' meetings. The sums spent for these meetings were Sfrs. 11 180.62 in 1976, Sfrs. 3 059.97 in 1977 and Sfrs. 1 959.23 in 1978. It is seen that the Officers made a special effort to keep expenses as low as possible. The total of Sfrs. 5 019.20 spent in 1977 and 1978 leaves a balance of Sfrs. 15 540.80 for 1979.

10. Symposia and Colloquia, cosponsored meetings included. Sfrs. 18 355.90 were spent in 1976 on Symposia 74 and 75, Colloquia 35 through 41, IUGG/COSPAR/IAU Symposium and as contribution toward the typing of a proceedings volume (Sfrs. 743.90). The Sfrs. 38 328.40 spent in 1977 cover Symposia 76 through 80, Colloquia 33, 42, 43, 45 and 52, and three cosponsored meetings. In 1978, Sfrs. 46 205.28 were spent on Symposia Nos. 81 through 84 and 89, Colloquia Nos. 44 and 46 through 50, and on 3 cosponsored meetings. Out of this amount Sfrs. 1 291.70 were contributions towards the production of 2 Symposium volumes.

11. Inter-Union Commissions. Annual contributions to IUCAF, ICSU-AB, ICSU-CTS and SCOSTEP amounted to Sfrs. 17 633.28 over the years under report, with an average of about Sfrs. 5 878.-- per year. In 1976, when the budget had been approved, the General Assembly expected additional (FAGS) and increased contributions to Inter-Union organizations. No such contributions were, however, paid in the period under report.

12. Executive Committee projects. Sfrs. 2 440.-- represent a grant towards the publication of the Atlas of Spectra of Stars of Types Later than G0, by P.C. Keenan and R.C. McNeil; Sfrs. 2 500.-- were a contribution towards the production of the Photographic Atlas of Be Stars by Commission No. 29; Sfrs. 1 085.-- were a subsidy towards the publication of "General History of Astronomy", and Sfrs. 397.-- were a travel grant to Prof. J. Kovalevsky for his participation in the IAU meeting on admission of new Members, Geneva, March 1977.

13. Representation. The Sfrs. 10 882.82 are travel and living expenses of IAU representatives at meetings of such organizations as EPS, FAGS, ICSU, COSPAR, Pic-du-Midi, etc.

14. Bank charges. They were less than foreseen in the approved budget.

15. Young Astronomers' Schools. Two such schools were organized, one in Brazil, November 1977, and one in Nigeria, Africa, August 1978. The amount spent on these schools leaves a balance of Sfrs. 4 395.20 for the year 1979.

16. Regional meetings. The expenses with the regional meetings in Santiago, Chile, and in Wellington, New Zealand, in 1978 were Sfrs. 17 700.13, by Sfrs. 12 299.87 less than foreseen in the budget.

17. Other payments. Reference is made to the comment in heading 6 under Receipts. The following is an analysis of the amounts of Sfrs. 290 504.28, Sfrs. 105 494.03 and Sfrs. 137 603.10 for the years 1976, 1977 and 1978 respectively:

Other payments	
1976	Sfrs.
Internal transfers to:	
current accounts	186 286.90
savings accounts	97 960.00

Rectification of erroneous credits	3 909.86
Erroneous debits	2 245.58
Tax on interest at UBS	101.94
Total	<u>290 504.28</u>

1977

Internal transfers to:	Sfrs.
current accounts	24 215.01
savings accounts	50 000.00
Transfers of ICSU grant to Commission No. 50	10 504.27
Transfer of undue amounts received	1 064.93
Erroneous debits	1 053.53
Transfer of interest from closed \$US account at AMRO	1.54
Rectification of erroneous credits	18 445.00
Tax on interest in UBS account	209.75
Total	<u>105 494.03</u>

1978

Rectification of erroneous credits	87 236.40
Transfer to savings account at UBS	50 000.00
Tax on bank interest	331.50
Refund	35.20
Total	<u>137 603.10</u>

## Recapitulation:

Other expenses in 1976	290 504.28
1977	105 494.03
1978	<u>137 603.10</u>
Total 1976-1978	533 601.41

*Audit for the Accounts 1976-1978*

Messieurs,

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 1er janvier 1976 au 31 décembre 1978.

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

- compte des recettes et dépenses pour l'année 1976, vérifiés par nous-mêmes
- compte des recettes et dépenses pour l'année 1977, vérifiés par nous-mêmes
- compte des recettes et dépenses pour l'année 1978, vérifiés par nous-mêmes
- compte des recettes et dépenses et situation des comptes bancaires pour la période de trois ans: 1976, 1977 et 1978.

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 1976, 1977, 1978, est la représentation exacte des recettes et dépenses de l'UNION ASTRONOMIQUE INTERNATIONALE pour la période du premier janvier 1976 au trente et un décembre 1978.

A Paris, le 20 mars 1979

(signé)

ROGER BACLE H.E.C.

Diplômé Expert-Comptable



*Conclusion*

The balance of Sfrs. 286 886.90 as in the current accounts at 31 December 1978 is by Sfrs. 8 927.13 less than that on 1 January 1976. This is due, in the main, to the transfer of Sfrs. 197 960.-- from current to savings accounts and, in a lesser degree, to exchange losses. Clearly, however, the additional Sfrs. 197 960.-- on the IAU savings accounts show that the finances of the Union are in an excellent state.

Residual budget for 1979. The figures in the accounts for 1977 and 1978 subtracted from those of the budget approved for 1977-1979 give the residual budget for the year 1979 as follows:

## Residual Budget for the Year 1979

(Sfrs. 1.-- = 0.8484 DFL = \$0.5952 U.S. as in March 1979)

## Receipts in Swiss francs

Balance as on 1 January 1979:	284 773.06
1. Contribution from Adhering Countries	319 276.60
2. Revenue from publications	11 631.03
3. Interest on accounts	14 926.86
4. UNESCO subvention through ICSU	34 902.91
Total receipts	665 510.46
Total payments	549 533.17
Excess of receipts over payments	<u>115 977.29</u>

## Payments in Swiss francs

1. Administrative Office	179 329.67
2. Subscription to ICSU	9 479.18
3. Commission expenses	6 926.28
4. Projects of Commissions	
4.1 Exchange of Astronomers	50 039.50
4.2 Other projects	20 173.73
5. General Assembly	136 210.00
6. IAU Publications	4 148.91
7. Publications for developing countries	29 127.30
8. Executive Committee meetings	6 864.63
9. Officers' meetings	15 540.80
10. Symposia and Colloquia	33 006.32
11. Inter-Union Commissions	30 720.72
12. Projects of the Executive Committee	6 018.00
13. Representation	10 401.82
14. Bank charges	3 149.06
15. Young Astronomers' Schools	4 395.20
16. Regional meetings	12 299.87
Total	<u>549 533.17</u>

Budget estimate for 1979, as proposed by the Executive Committee in August 1978:

## Receipts in Swiss francs

1. Contribution from Adhering Countries	314 975.00
2. Revenue from publications	20 000.00
3. Interest on accounts	13 308.00
4. UNESCO subvention through ICSU	22 320.00
Total receipts	370 603.00
Payments	-448 753.00
Excess of payments over receipts	<u>78 150.00</u>

## Payments in Swiss francs

1. Administrative office	150 000.00
2. Subscription to ICSU	7 875.00
3. Commission expenses	3 430.00
4. Projects of Commissions	
4.1 Exchange of Astronomers	45 000.00
4.2 Other projects	11 450.00
5. General Assembly	136 210.00
6. Publications	12 850.00
7. Publications for developing countries	16 667.00

## REPORT OF THE EXECUTIVE COMMITTEE

8. Executive Committee	0
9. Officers' meetings	6 550.00
10. Symposia & Colloquia	34 000.00
11. Inter-Union Commission	13 500.00
12. EC projects	3 334.00
13. Representation	6 667.00
14. Bank charges	1 220.00
15. Young Astronomers' Schools	0
16. Regional meetings	<u>0</u>
Total	448 753.00

The Executive Committee resolved at the same time that the imbalance be covered from the balance in hand on the IAU current accounts, and that the Young Astronomers' Grants to the XVIIth General Assembly be paid from the following funds:

-Franklin Mint donation (\$1.-- U.S. = 1.9262 Sfrs. on the day of meeting of Executive Committee)	Sfrs. 48 156.50
-Budget item 5 (payments): General Assembly	Sfrs. 19 300.00
-Budget item 4.1 (payments): Exchange of Astronomers	Sfrs. 19 300.00
-Reserves	Sfrs. 19 300.00
Total Sfrs.	<u>106 056.50</u>

In view of this and of other factors the Executive Committee now proposes the following budgetary estimate for the year 1979:

(1 unit of contribution equal 1 465.--Swiss francs,  
1 Sfrs. = 0.8484 Dfl. = \$10.5952 U.S.)

## Receipts in Swiss francs

## Payments in Swiss francs

Balance as on 1 January 1979:	284 773.06
1. Contribution from Adhering Countries	322 300.00
2. Revenue from publications	20 000.00
3. Interest on accounts	18 000.00
4. UNESCO subvention through ICSU	<u>26 880.00</u>
Total receipts	671 953.06
Total payments	<u>524 121.31</u>
Excess of receipts over payments	<u>147 831.75*</u>

\*See item 4.2 Payments

1. Administrative office	170 000.00
2. Subscription to ICSU	8 003.00
3. Commission expenses	3 000.00
4. Projects of Commissions	
4.1 Exchange of Astronomers	25 000.00
4.2 Other projects	6 629.51
5. General Assembly	200 000.00
6. IAU Publications	18 000.00
7. Publications for developing countries	17 000.00
8. Executive Committee meeting	0
9. Officers' meeting	3 000.00
10. Symposia and Colloquia	50 300.00
11. Inter-Union Commissions	4 888.80
12. Projects of the Executive Committee	2 000.00
13. Representation	6 000.00
14. Bank charges	300.00
15. Young Astronomers' Schools	10 000.00
16. Regional Meetings	<u>0</u>
Total	524 121.31

## Explanatory Notes:

*Receipts:*

The balance of Sfrs. 284 773.06 as on 1 January 1979 includes, among others, the total amount of Sfrs. 136 210.00 as foreseen for the General Assembly in the budget for 1977-1979 and for the Franklin Mint donation of Sfrs. 44 156.50.

1. The contribution of adhering countries for 1979 has been obtained by multiplying the number of 220 units of contribution payable in the course of the year by Sfrs. 1 465.--, which equals Sfrs. 322 300.--.

2. Revenue from publications. A preliminary report shows that the D. Reidel Publishing Company will pay the IAU Sfrs. 16 353.73 on royalties in 1979. It has already paid Sfrs. 991.46 on translation royalties. If it is assumed that the volume of sales by the IAU Secretariat will be Sfrs. 3 484.28 as it was in 1978, the resulting figure is Sfrs. 20 829.47.

3. Interest on accounts earned in 1978 was Sfrs. 17 400.--. In 1979, interest to accrue on the savings accounts has been estimated at Sfrs. 17 970.--. With interest to be earned on the current accounts, the amount of Sfrs. 18 000.--, as in the budget, is justified.

4. The UNESCO subvention through ICSU is \$16 000.-- for 1979, out of which \$4 000.-- have been earmarked for the Tenerife Young Astronomers' School (special contract). The total allocation multiplied by 1.68, the present rate of exchange of the U.S. dollar vs. the Swiss franc, gives Sfrs. 26 880.--.

*Payments*

1. The figure of Sfrs. 170 000.-- is by 9 329.67 Sfrs. less than the difference between the amount of Sfrs. 449 900.--, as in the approved budget for the present term of office, and the payments made in 1977 and 1978. It has to cover the salaries, social charges and health insurance of the present staff members until their termination of service and the staff members of the permanent seat in Paris from 15 September on, removal expenses of the personal belongings of the staff and the files of the office, the transportation of the IAU archives from Bruxelles, and Prague to Paris, the audit fee for the accounts 1978 and 1976-1978, expenses for stationery, office material, postage, telephone etc. at the new seat in Paris from September 15, 1979 on, and the furnishing, typewriters etc. of the new secretariat in Paris.

2. The subscription to ICSU of Sfrs. 8 003.-- for 1979 has already been paid.

3. A total of Sfrs. 3 353.72 were paid under this heading in 1977 and 1978. Thus, Sfrs. 3 000.-- is expected to be sufficient in 1979.

4.1 Commission No. 38 spent Sfrs. 18 422.--, 12 694.50 and 4 671.-- on the project Exchange of Astronomers in 1976, 1977 and 1978 respectively, with an average of Sfrs. 11 929.16 per year. The figures show that the allocations vary considerably from year to year, and that an upward trend may be possible in 1979. This project has always been considered the most important among IAU activities and it was therefore felt that an estimate of Sfrs. 25 000.-- for 1979 is justified.

4.2 Other Projects. The Sfrs. 6 629.51 already paid represent the total payments due for 1979. See also table on page .

Here it should be noted that the grants within Commission No. 27 towards the production of the Variable Stars Catalogue have systematically been saved up with a view of purchasing for them an adequate printing equipment. A Rank Xerox 3107 copier has been bought in 1979 for shipment to Moscow. The price of the copier, transport included, in the amount of about 24 600.-- will be paid in 1979.

The grants saved have never been shown in the budget, as they were kept within the reserves of the IAU. Hence they are included in the balance as on 1 January 1979. The balance of Sfrs. 147 831.75, as expected on 31 December 1979, will therefore drop to about Sfrs. 123 231.75 (147 831.75 - 24 600.--)

5. General Assembly. The sum of Sfrs. 200 000.-- will be spent on travel and living expenses of the members of the Executive Committee and of 5 Officers elect, travel grants to Presidents of Commissions, travel and living expenses of the IAU Staff, local secretarial help, and on young astronomers grants for which the Executive Committee has set aside Sfrs. 106 056.--. Part of these Sfrs. 106 056.-- are covered by the Franklin Mint donation of Sfrs. 44 156.50 ( in August 1978 - Sfrs. 48 156.50) and the savings under item 4.1.

6. IAU publications. The amount of Sfrs. 18 000.-- is to cover the production and distribution for IAU Information Bulletin Nos. 42 and 43.

7. Publications for developing countries. Transactions, Vol. XVIIIA, and an increased number of Symposium volumes are expected to appear in 1979, which will require more funds for buying and distributing them to institutions of developing countries, members of the Executive Committee, Chairmen of the Scientific Organizing Committees of Symposia, UNESCO and the IAU Secretariat. The sum of Sfrs. 17 000.-- is therefore justified.

8. The expenses to incur with the 2 meetings of the Executive Committee during the XVIIth General Assembly are included in the costs of this Assembly.

9. It is expected that only 1 Officers' meeting will be held in 1979. The sum of Sfrs. 3 000.-- is adequate to cover the expenses of this meeting.

10. Sfrs. 37 800.-- is the IAU contribution to 7 Symposia and Sfrs. 7 500.-- are to cover 3 Colloquia in 1979. Sfrs. 5 000.-- will be spent on a cosponsored Symposium.

11. Inter-Union Commissions have been paid contributions in the amount of Sfrs. 4 888.80 in 1979. No other such contributions are due this year.

12. Sfrs. 2 000.-- are a reserve for unforeseen projects to be financed by the Executive Committee.

13. The trip of the General Secretary to the COSPAR Plenary meeting in Bangalore, her visit to Bulgaria and Czechoslovakia, and Dr Enslin's participation in the FAGS Council meeting in 1979 will cost at least Sfrs. 6 000.--.

14. Bank charges will not exceed Sfrs. 300.-- in 1979.

15. A UNESCO contract through ICSU provides \$4 000.--, that is Sfrs. 6 720.--, for the Young Astronomers' School to be held in Tenerife in September 1979. A subsidy of Sfrs. 3 280.--, available from the sum foreseen in the approved budget, brings the total grant for this school to Sfrs. 10 000.--.

16. No regional meeting will be held in 1979.

The Finance Committee, to convene during the XVIIth General Assembly, will be asked to endorse the budgetary estimate for 1979, as proposed above, and to submit to the approval of the General Assembly the comprehensive budget prepared by the Executive Committee for the years 1980-1982.

## APPENDIX

### A. *List of Countries Adhering to the IAU*

The following is a list of the 48 countries that adhered to the Union in December 1978, giving also the year of admission and the Adhering Organization.

Country	Year	Adhering Organization
Arab Republic of Egypt	1925	Academy of Scientific Research and Technology Dept. Sci.Soc. and Internat. Unions 101, Kasr El Eini Street, Cairo
Argentina	1927	Comité Nacional de Astronomia Observatorio Astronomico "Felix Aguilar" Av. Benavidez 8175 Oeste 5407 Marquesado, San Juan

Australia	1939	Australian Academy of Science, P.O. Box 216 Civic Square, Canberra, A.C.T. 2608
Austria	1955	Oesterreichische Akademie der Wissenschaften Dr Ignaz Seipel-Platz 2, 1010 Vienna
Belgium	1920	Académie Royale de Belgique, Palais des Académies, 1, rue Ducale, Bruxelles 1
Brazil	1961	Comissao Brasileira de Astronomia (CBA) Conselho Nacional de Pesquisas Avenida Marechal Câmara 350, Rio de Janeiro GB
Bulgaria	1957	Bulgarian Academy of Sciences 7th November Street 1, Sofia
Canada	1920	National Research Council of Canada International Relations, Ottawa K1A 0R6
Chile	1947	Universidad de Chile, Observatorio Astronomico Nacional, Casilla 36-D, Santiago de Chile
Colombia	1967	Academia Colombiana de Ciencias Exactas Fisicas y Naturales, Carrera 8a Apartado Nal. 2584, Bogota 1, D.E.
Cuba	1970	Instituto de Astronomia de la Academia de Ciencias de Cuba, Calle 174/1722, Cubanacan, Habana
Czechoslovakia	1922	Czechoslovak Academy of Sciences, Narodni 3, Praha 1, Czechoslovakia
Denmark	1922	Videnskabernes Selskab, Dantes Plads 5, DK-1556 Copenhagen V
Finland	1948	Académie des Sciences et Lettres Snellmaninkatu 9-11, Helsinki 17
France	1920	Académie des Sciences, Institut de France 23, Quai de Conti, 75006 Paris
Germany, D.R.	1951	Akademie der Wissenschaften der DDR Otto Nuschkestrasse 22/23, DDR 108 Berlin
Germany, F.R.	1951	Rat Westdeutscher Sternwarten, Institut für Theoretische Physik und Sternwarte der Universität Neue Universität, Olshausenstrasse, 2300 Kiel
Greece	1920	Academy of Athens, Panepistimiou Str. Athens
Hungary	1947	Hungarian Academy of Sciences, Roosevelt tér 9, Budapest V
India	1964	Indian National Science Academy Bahadur Shah Zafar Marg, New Delhi - 110001
Iran	1969	Université de Téhéran, Institut Géophysique Amirabad Shomali, Teheran

Iraq	1976	Fondation of Scientific Research P.O. Box 255, Baghdad
Ireland	1947	National Committee of Astronomy, The Royal Irish Academy, 19 Dawson Street, Dublin 2
Israel	1954	The Israel Academy of Sciences and Humanities, 43 Jabotinsky Road, P.O.B. 4040, Jerusalem 91 040
Italy	1921	Consiglio Nazionale delle Ricerche Piazzale delle Scienze 7, Rome
Japan	1920	Science Council of Japan, 22-34 Roppongi, 7 chome, Minato-ku, Tokyo 106
Korea (DPR)	1961	Academy of Sciences, Pyongyang
Korea (Republic)	1973	Korean National Astronomical Observatory Yorksam-Dong, Kangnam-ku, Seoul, 134-03
Mexico	1921	Instituto de Astronomia, UNAM Apartado Postal 70-264, México, D.F.
Netherlands	1922	Koninklijke Nederlandse Akademie van Wetenschappen Kloveniersburgwal 29, Amsterdam-C
New Zealand	1964	The Royal Society of New Zealand, 6 Kelburn Parade P.O. Box 12249, Wellington
Norway	1922	Det Norske Videnskaps-Akademi i Oslo Drammensveien 78, Oslo 2
Poland	1922	Polaska Akademia Nauk, Palac Kultury i Nauki, Warsaw
Portugal	1924	Seccao Portuguesa das Unioes Internacionais Astronomica e Geodésia e Geofisica Praça de Estrela, Lisboa 2
Roumania	1928	Roumanian National Committee of Astronomy Astronomical Observatory, Str. Cutitul de Argint 5 Bucarest 28
South Africa	1938	Council for Scientific and Industrial Research Information and Research Services, Pretoria 0001
Spain	1922	Comision Nacional de Astronomia, Instituto Geografico y Catastral, General Ibanez 3, Madrid (3)
Sweden	1925	Kungl. Vetenskapsakademien, Fack, S-104 05 Stockholm 50
Switzerland	1923	Schweizerische Naturforschende Gesellschaft, Zentralsekretariat, Laupenstr. 10, 3000 Bern
Taiwan	1959	Academy of Sciences pf Taipei, No. 130 Yen Chiu Yuan Road, Section 11, Nankang-Taipei
Turkey	1961	Türk Astronomi Dernegi, University Rasathanesi Beyazit, Istanbul

United Kingdom	1920	The Royal Society, 6, Carlton House Terrace London, SW1Y 5AG
Uruguay	1970	Ministerio de Educacion y Cultura, Comité Nacional de Astronomia, Casilla de Correo 867, Montevideo
U.S.A.	1920	National Academy of Sciences, Office of the Foreign Secretary, 2101 Constitution Ave N.W., Washington, D.C. 20148
U.S.S.R.	1935	Academy of Sciences of the U.S.S.R., Leninskij Prospekt 14, Moscow 71
Vatican City State	1932	Pontificia Academia delle Scienze Citta del Vaticano
Venezuela	1953	Asociacion Venezolana de Astronomia, Facultad de Ingenieria, Departamento de Geodesia, Universidad del Zulia, Maracaibo
Yugoslavia	1935	Savez društva matematičara, fizičara i astronoma Jugoslavije, Attn. Secretary General ul. Dr Ilije Duričića 4, Novi Sad.

*B. List of Deceased Members*

The Executive Committee regrets to record the loss by death of the following 51 Members:

ADAMOPOULOS Dr G. - 10 September 1977  
 BHATNAGAR Prof. P.L. - 5 October 1976  
 BLACKETT Prof. P.M.S. - F.R.S. - 13 November 1974  
 BUTLER Dr H.E. - 10 May 1978  
 CARPENTER G.J. - 1 June 1977  
 CHALONGE Dr D. - 28 November 1977  
 CHENAKAL Dr V.L. - 24 June 1977  
 CRUZ GONZALES C. - 8 April 1977  
 CUREA Prof. I. - 1 March 1977  
 DIMITROFF Prof. G.Z. - unknown date  
 DINGLE Prof. H. - 4 September 1978  
 ELVEY Dr C.T. - unknown date  
 EZERSKIJ Dr V.I. - 11 July 1978  
 FEDYNSKIJ Prof. V.V. - 17 June 1978  
 GENTILI DE GIUSEPPE M. - 2 July 1977  
 GORDON Dr J.E. - 5 May 1978  
 HAFFNER Prof. H. - 23 February 1977  
 HEARD Dr J.P. - 5 October 1976  
 HUANG Dr Su-Shu - 15 September 1977  
 ITZIGSOHN M. - 30 January 1978  
 KAPLAN Prof. S.A. - 11 June 1978  
 KOELBLOED Dr D. - 21 June 1977  
 KOROL' Dr A.K. - 10 March 1977  
 KUKARKIN Prof. B.V. - 15 September 1977  
 KUPO Dr I. - 1978 - unknown date  
 LACCHINI Prof. G.B. - unknown date

LACOMBE Dr C.G. - 16 September 1977  
 LALLEMAND Dr A. - 24 March 1978  
 LIMBER Dr D.N. - 16 April 1977  
 LIPSKIJ Dr Y.N. - 24 January 1978  
 MADEIRA Dr J.A. - 22 August 1976  
 MENZEL Dr D.H. - 14 December 1976  
 MICHKOVITCH Prof. V.V. - 25 November 1976  
 NEFED'EV Dr A.A. - 14 September 1976  
 NISSEN Prof. J.J. - 9 June 1978  
 OOSTERHOFF Prof. P. Th. - 14 March 1978  
 PALMER D.R. - August 1975  
 POPOVICI Prof. C. - 16 January 1977  
 POSTOIEV Dr A. - 21 July 1976  
 RIGHINI Prof. G. - 30 May 1978  
 RIIVES Dr V. - 28 May 1978  
 SEN Dr H.K. - 2 September 1976  
 SMERD Dr S.F. - 20 December 1978  
 STICKER Prof. B. - 30 August 1977  
 STIEFEL, Prof. E. - 1978 - unknown date  
 STOYKO Dr N. - 14 September 1976  
 THACKERAY Prof. A.D. - 21 February 1978  
 TREATOR Dr P.J. - 18 February 1978  
 UETA Dr J. - 13 November 1976  
 VANDEKERKHOVE Dr E. - September 1978

*C. List of IAU Publications*

Transactions of the IAU, Volume XVIIA, "Reports on Astronomy, 1976", in set of 3 volumes (Part 1: pp. VI + 228; Part 2: pp. VI + 240; Part 3: pp. VI + 222), price Dfl 182 (Dfl 61 per volume - Members at 33.33% discount). Editor G. Contopoulos, Published by D. Reidel Publishing Company, Dordrecht, Holland, 1976.

Transactions of the IAU, Volume XVII B: "Proceedings of the Sixteenth General Assembly of the IAU", Grenoble, France; 1976, pp. X + 564, price cloth Dfl. 125 (Members at 33.33% discount). Edited by Edith A. Müller and A. Jappel. Published by D. Reidel Publishing Company, 1977.

Highlights of Astronomy, Volume No. 4, as presented at the XVIth General Assembly of the IAU, 1976, in 2 parts (Part 1: pp. VI + 370; Part 2: VI + 407), price Dfl 180. (Part 1 Dfl 85, Part 2 Dfl 95 - Members at 33.33% discount). Edited by Edith A. Müller. Published by D. Reidel Publishing Company, 1977.

IAU Symposium Volumes:

- No. 70 "Be and Shell Stars", pp. XVI + 465, price: cloth Dfl 150, paper Dfl 115 (Members at 33.33% discount). Edited by A. Slettebak, published by D. Reidel Publishing Company, 1976.
- No. 71 "Basic Mechanisms of Solar Activity", pp. XVI + 481, price Dfl 140, paper Dfl 105 (Members at 33.33% discount). Edited by V. Bumba and J. Kleczek, published by D. Reidel Publishing Company, 1976.
- No. 72 "Abundance Effects in Classification", pp. XXVIII + 264, price Dfl 85, paper Dfl 60 (Members at 33.33% discount). Edited by B. Hauck and P.C. Keenan, published by D. Reidel Publishing Company, 1976.
- No. 73 "Structure and Evolution of Close Binary Systems", pp. XII + 414, price Dfl 105, paper Dfl 85 (Members at 33.33% discount). Edited by P. Eggleton, S. Mitton and J. Whelan, published by D. Reidel Publishing Company, 1976.
- No. 74 "Radio Astronomy and Cosmology", pp. XX + 398, price Dfl 95, paper Dfl 50



- (Members at 33.33% discount). Edited by D.L. Jauncey, published by D. Reidel Publishing Company, 1977.
- No. 75 "Star Formation", pp. XIV + 296, price Dfl 75, paper Dfl 45 (Members at 33.33% discount). Edited by T. de Jong and A. Maeder, published by D. Reidel Publishing Company, 1977.
- No. 76 "Planetary Nebulae", pp. XVIII + 376, price Dfl 90, paper Dfl 60 (Members at 33.33% discount). Edited by Y. Terzian, published by D. Reidel Publishing Company, 1978.
- No. 77 "Structure and Properties of Nearby Galaxies", pp. XVIII + 308, price Dfl 75, paper Dfl 50 (Members at 33.33% discount). Edited by E.M. Berhijzen and R. Wielebinski, published by the D. Reidel Publishing Company, 1978.
- No. 79 "The Large-Scale Structure of the Universe", pp. XX + 451, price Dfl 110, paper Dfl 70 (Members at 33.33% discount). Edited by M.S. Longair and J. Einasto, published by the D. Reidel Publishing Company, 1978.
- No. 80 "The HR Diagram - The 100th Anniversary of Henry Norris Russell" pp. XXVI + 474, price Dfl 110, paper Dfl 70 (Members at 33.33% discount). Edited by A.G. Davis Philip and D.S. Hayes, published by D. Reidel Publishing Company, 1978.

## IAU Colloquium Volumes:

- No. 25 "Study of Comets", edited by B.D. Donn. Published as a NASA Special Publication, 1975.
- No. 26 "Reference Coordinate System for Earth Dynamics", edited by B. Kolaczek and G. Weiffenbach. Published by Warsaw Technical University, June 1976.
- No. 27 "X- and UV- Spectroscopy of Astrophysical and Laboratory Plasmas", edited by W.R.S. Garton. Published in *Astrophysics and Space Science* **38**, 313-380, 1975.
- No. 28 "Planetary Satellites", invited papers and other material edited by J.A. Burns and published by University of Arizona Press as "Planetary Satellites", 1975. Contributed papers published in *ICARUS*, April and July 1975, and in *Celestial Mechanics*, August 1975.
- No. 29 "Multiple Periodic Variable Stars", volume 1 pp.348, volume 2 pp. 356. Edited by W.S. Fitch. Published by the Hungarian Academy of Sciences, 1976.
- No. 30 "Jupiter", 36 papers in *ICARUS*, March 1976; *Journ. Geophys. Research*, July 1976; and *ICARUS*, October 1976. 44 review chapters in "Jupiter" edited by T. Gehrels, University of Arizona Press, 1978.
- No. 31 "Interplanetary Dust and Zodiacal Light", edited by H. Elsässer and H. Fechtig. Published by Springer Verlag in the series "Lecture Notes in Physics", 1976.
- No. 32 "Physics of Ap Stars", edited by W.W. Weiss. Published by Universitätssternwarte Wien, 1976.
- No. 33 "Observational Parameters and Dynamical Evolution of Multiple Stars", edited by O.G. Franz and P. Pismis. Published in the May 1977 issue, Vol. 3 of *Revista Mexicana de Astronomia y Astrofisica*.
- No. 35 "The Compilation, Critical Evaluation, and Distribution of Stellar Data", edited by C. Jaschek and G.A. Wilkins. Published by D. Reidel Publishing Company (*Astrophysics and Space Science Library* 64), 1977.
- No. 36 "Energy Balance and Hydrodynamics of the Solar Chromosphere and Corona", edited by R.M. Bonnet and Ph. Delache. Published by Observatoire de Nice, France, 1977.
- No. 37 "Redshifts and the Expansion of the Universe", followed by "The Evolution of Galaxies and its Cosmological Implications", C.N.R.S. Colloquium No. 263. Edited by B.E. Westerlund and C. Balkowski. Published in the editions du C.N.R.S., 15 Quai Anatole France, 75007 Paris, France, 1978.
- No. 38 "Problems of Stellar Convection", edited by E.A. Spiegel and J.P. Zahn. Published by Springer Verlag (*Lecture Notes in Physics*, Vol. 71, Berlin), 1977.

- No. 39 "Relationship between Comets, Minor Planets and Meteorites". Proceedings included in volume "Comets, Asteroids, Meteorites" edited by A.H. Delsemme. Published by University of Toledo, 1977 (Toledo University Bookstore, Toledo, Ohio 43606).
- No. 40 "Astronomical Applications of Image Detectors with Linear Response", edited by M. Duchesne and G. Lelièvre. Published by Observatoire de Meudon, France, 1978.
- No. 41 "Dynamics of Planets and Satellites, and Theories of their Motion", edited by V.G. Szebehely. Published by D. Reidel Publishing Company, 1978 (Astrophysics and Space Science Library 72).
- No. 42 "The Interaction of Variable Stars with their Environments", edited by R. Kippenhahn, J. Rabe and W. Strohmeier. Published by Verlag der Remeis-Sternwarte, Bamberg, Bd. XI, No. 121, 1977.
- No. 43 "Ultraviolet and X-Ray Spectroscopy of Astrophysical and Laboratory Plasmas". Abstracts only. Prepared by Physics Department, Imperial College, London SW7-2BZ, U.K., for limited distribution.
- No. 45 "Chemical and Dynamical Evolution of our Galaxy", edited by E. Basinski, Grzesik and M. Mayor. Published by Geneva Observatory, 1290 Sauverny, Switzerland, 1977.

#### Other Publications

- Proceedings of the Third European Astronomy Meeting, held under the auspices of the IAU, "Stars and Galaxies from Observational Points of View". Edited by E.K. Kharadze. Published by Academy of Sciences of the Georgian SSR, Abastumani Astrophysical Observatory, U.S.S.R. For sale outside the Socialist countries by D. Reidel Publishing Company, 1976.
- Proceedings of a Special IAU Session on "CNO Isotopes in Astrophysics", edited by J. Adouze. Published by D. Reidel Publishing Company, 1977.
- Proceedings of a Special IAU Session on "Supernovae", edited by D.N. Schramm. Published by D. Reidel publishing Company, 1977.
- Proceedings of Joint Session of IAU Commission No. 34 with several other Commissions "Topics in Interstellar Matter", edited by H. van Woerden. Published by D. Reidel Publishing Company, 1977.

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

- Commission No. 6 IAU (Telegram Bureau) circulars Nos 2876 - 3317. Issued by the IAU Central Bureau for Astronomical Telegrams.
- Commission No. 10 Cartes Synoptiques de la Chromosphère Solaire. Prepared by Observatoire de Paris, Meudon.
- Quarterly Bulletin on Solar Activity(QBSA). Published by the Swiss Federal Observatory, Zürich, Switzerland, up to No. 196 and by the Tokyo Astronomical Observatory, Mitaka, Tokyo, from No. 197 on.
- Commission No. 19 Monthly Notes of the IPMS Nos. 11 (1975) - 11 (1978). Published by the International Polar Motion Service, Mizusawa-shi, Japan.
- Annual Report of the International Polar Motion Service for the Year 1975, by S. Yumi, published by the Central Bureau of the International Polar Motion Service, 1977.
- Results of the International Latitude Service 1962. 0 - 1967. 0, Vol. XII with one Appendix, by S. Yumi and K. Yokoyama. Published by Central Bureau of the International Polar Motion Service, International Latitude Observatory of Mizusawa.
- Commission No. 20 Minor Planet Circulars Nos. 3909 - 4582. Mimeographed circulars issued by the Minor Planet Center, Cincinnati, now Cambridge, Mass., U.S.A.
- Commission No. 24 Astrographic Catalogues. Information regarding the different sections of the Catalogue can be obtained from the Observatories listed in IAU Transactions, Vol. XIVB, pp. 176, 177, 1971.

- Commission No. 26 Circulaire d'Information Nos. 68-76. President: P. Muller, CERGA, Grasse, France.
- Commission No. 27 Information Bulletin on Variable Stars. Prepared by Konkoly Observatory, Budapest, Hungary.
- Commission No. 31 Annual Report of the BIH. Published by the Bureau International de l'Heure, Paris, France.
- Commission No. 41 Information Circular Nos. 26-28. Published by the President of the Commission.
- IAU Information Bulletin Nos. 35 - 40. Prepared by the General Secretary.