

- (v) To create within one of the IAU Commissions a Sub-commission on the Physics of Unstable Stars.

The General Secretary then read the proposals for resolutions submitted by Commissions as follows:

- (a) (*Commission No. 6*) recommends that the IAU subvention to the IAU Telegram Bureau be maintained at its present value of \$ 1 600 per triennium.
- (b) (*Commission No. 16*) proposes that \$ 1 500 be allocated to the Centre de documentation sur les planètes à Meudon for 1971–73.
- (c) (*Commission No. 17*) propose que l'Assemblée Générale accepte les 500 noms proposés par la Commission N°. 17 pour désigner les cratères de la face arrière de la Lune et qu'elle attribue à la Commission N°. 17 pour les années 1971–73 une subvention de \$ 2000 pour aider le fonctionnement des groupes de travail spécialisés de cette Commission.
- (d) (*Commission No. 23*) proposes that a resolution be discussed by the General Assembly concerning the future of the Helsingfors Observatory which is threatened to be closed down by the authorities.
- (e) (*Commissions No. 23 and 24*) propose the merger of Commission No. 23 'Carte du Ciel' and Commission No. 24 on Stellar Parallaxes and Proper Motions.
- (f) (*Commission No. 33*) proposes that the General Assembly resolve to omit the superscript II from the new galactic coordinates that should be simply I, b; the old coordinates should retain the superscript I.
- (g) (*Commission No. 27*) proposes to allocate to Commission No. 27 an annual subvention of \$ 1000 for the continued publication of the *General Catalogue of Variable Stars*.
- (h) (*Commission No. 46*) recommends the introduction of a fundamental course in astronomy in University curricula.

The General Secretary explained that these proposals would first be considered by the relevant Commissions and then passed on to the Resolutions Committee for further recommendation. A number of other proposals received from Commissions in draft form would first be discussed by the Commissions.

The General Secretary reminded that the formal vote on resolutions would take place at the final session of the General Assembly, according to By-laws.

The General Secretary then announced that all other items of agenda would be deferred until the next session of the General Assembly, pending reports from various Commissions and Committees. The President thanked the interpreters and formally adjourned the meeting at 16<sup>h</sup>15<sup>m</sup>.

## FINAL SESSION

*Held in The Dome at Brighton, Sussex, England, on Thursday 27 August 1970 at 10<sup>h</sup>00<sup>m</sup>*

Professor Dr O. Heckmann, President, in the chair

The Chairman referred to the General Secretary's motion made at the first session and put to the vote of the General Assembly the new Statutes and By-laws of the International Astronomical Union, as proposed by the Executive Committee. The Statutes and By-laws were adopted by show of hands of the official representatives of Adhering Organizations.

12 and 13. *Report of the Finance Committee and consideration of the unit of subscription.*

At the first session of the General Assembly a Finance Committee had been appointed to examine the accounts of the Union for the preceding three years and to consider the budget of the IAU for the coming three years, as prepared by the Executive Committee. The Chairman now called upon

the President of the Finance Committee, Prof. A. G. Velghe, to present his report to the General Assembly, which was read as follows:

REPORT OF THE FINANCE COMMITTEE TO THE GENERAL ASSEMBLY

1. The Finance Committee, as appointed at the first session of the XIV General Assembly, appointed a Sub-Committee composed of Professor A. G. Velghe (Chairman), Professor E. Kharadze, Professor H. Elsässer, Professor L. Dezsö, and Professor P. A. Wayman. Professor D. W. N. Stibbs and Dr K. A. Strand attended meetings of the Sub-Committee by invitation of the Chairman.

2. The Sub-Committee examined the accounts for the years 1967 to 1969 as given in the Activity Report of the Executive Committee, together with reports of the Auditors for each year separately and explanatory notes presented by the General Secretary, Assistant General Secretary and Executive Secretary. Approval of these accounts was agreed and thanks were conveyed to those persons responsible for their preparation.

It was noted that a considerable improvement in the financial state of the Union had occurred between 1 January 1967 and 31 December 1969, as represented by an increase of assets of Dollars 23,498. There were two principal reasons for this improvement. Firstly there was an increase in annual subscription unit together with a larger subvention from UNESCO through ICSU. Secondly the publication contract with a publisher had been revised to take the form of a royalty for the Union, the publisher bearing the risk, and this had proved more satisfactory financially.

It was noted that the contributions of all countries were paid up-to-date by the time of the XIV General Assembly, a very satisfactory position.

It was noted that repayments of the substantial loan payments necessary in 1967 had been made according to the prepared schedule.

The Finance Committee recommends to the General Assembly that the accounts for the years 1967, 1968 and 1969 be approved.

3. The Sub-Committee considered the Supplementary Budget for the year 1970 as proposed by the Executive Committee. The net excess of Dollars 5,245 required for the year was regarded as a normal requirement and was approved.

The Finance Committee recommends that the General Assembly accept the Supplementary Budget for 1970 as proposed by the Executive Committee (see p. 24).

4. The Sub-Committee considered the budget for the three years 1971–73 and prepared, on the advice of the General Secretary, figures for consideration by the Finance Committee. In doing so the following points were noted:

- (a) That the unit of contribution remains fixed at 900 gold francs until 1973;
- (b) That it was henceforth necessary to allow a budgetary item to cover Officers' expenses in order to facilitate administration between Secretaries and President;
- (c) That the revised form of distribution of Draft Reports, Transactions, etc. had resulted in a resolution of the financial difficulties occurring in 1967.

5. The Finance Committee recommends that the unit of contribution from Adhering Countries be maintained at the present level of 900 gold francs for the period 1971–73.

6. The Finance Committee considered the recommendations of the Sub-Committee and proposes the budgetary provisions for adoption at the second session of the XIV General Assembly as given in the Appendix.

If the General Assembly decides to hold the XV General Assembly in Australia Appendix A contains the recommended Budget. If the General Assembly decides to hold the XV General Assembly in Poland Appendix B contains the recommended Budget.

7. In conclusion, the Finance Committee recommends that the thanks of the Union be conveyed to the administrative staff for their unremitting work in effecting an improvement in the financial situation by executing the recommendations of the XIII General Assembly in this respect.

APPENDIX A  
(Australia)

to the Report of the Finance Committee to the XIV General Assembly

## COMPREHENSIVE BUDGET for 1971-73 (without UNESCO contracts)

<i>Estimated Income</i>		
<i>Heading</i>	<i>Origin</i>	<i>U.S. \$</i>
1.	Contributions from Adhering Countries	\$161 000
2.	Sales of Publications	15 000
3.	Interest on reserves in Savings Banks	7 000
4.	UNESCO subvention through ICSU	42 000
Total estimated income		\$225 000

<i>Estimated Expenditure</i>		
<i>Heading</i>	<i>Purpose</i>	<i>U.S. \$</i>
1.	Administrative Office	\$ 70 000
2.	Contribution to ICSU	3 000
3.	Specific projects of Commissions	32 700
4.	General Assembly expenses	41 000
5.	IAU publications	20 000
6.	Meetings of Executive Committee	14 000
7.	Meetings of Officers	5 000
8.	Symposia and Colloquia	* 25 000
9.	Interunion Commissions	8 000
10.	Projects authorized by the Executive Committee	1 300
11.	Reimbursement of loan from ICSU	5 000
12.	Summer Schools	**
Total estimated expenditure		225 000

\* Provided the XV General Assembly is held in Australia and a major astronomical meeting is arranged in Poland in 1973, the Finance Committee recommends the General Assembly to authorize the General Secretary to incur expenditure of up to Dollars 10 000 in excess of the sum of Dollars 25 000 specified under heading 8, and, if insufficient, this excess expenditure could be increased up to Dollars 15 000 with the consent of the Executive Committee, due regard being paid to the financial situation of the Union.

\*\* If the category of adherence of some countries were sufficiently raised, or if additional unforeseen funds were made available to the Union, the item of Summer Schools should receive preferential consideration by the Executive Committee.

Details of individual items under heading 3 (Specific projects of Commissions) are given below:

<i>Commission No.</i>	<i>Project</i>	<i>Sum requested by Commission (U.S. \$)</i>	<i>Sum proposed by Finance Committee (U.S. \$)</i>
4	Information Bureau on Astronomical Ephemerides	600	600
6	IAU Telegram Bureau	1 600	1 600
16	Centre de documentation sur les planètes à Meudon	1 500	1 500
17	Special Working Groups of Commission 17	2 000	1 000
20	Minor Planet Center, Cincinnati	2 000	1 500
27	Catalogue of Variable Stars	3 000	3 000
38	Exchange of Astronomers	22 000	22 000
	Information Bulletin for the Southern Hemisphere	1 500	1 500
Total		34 200	32 700

APPENDIX B  
(Poland)

to the Report of the Finance Committee to the XIV General Assembly

## COMPREHENSIVE BUDGET for 1971-73 (without UNESCO contracts)

<i>Estimated Income</i>		
<i>Heading</i>	<i>Origin</i>	<i>U.S. \$</i>
1.	Contributions from Adhering Countries	161 000
2.	Sales of Publications	15 000
3.	Interest on reserves in Savings Banks	7 000
4.	UNESCO subvention through ICSU	42 000
Total estimated income		225 000

<i>Estimated Expenditure</i>		
<i>Heading</i>	<i>Purpose</i>	<i>U.S. \$</i>
1.	Administrative Office	70 000
2.	Contribution to ICSU	3 000
3.	Specific projects of Commissions	32 700
4.	General Assembly expenses	20 000
5.	IAU publications	20 000
6.	Meetings of Executive Committee	14 000
7.	Meetings of Officers	5 000
8.	Symposia and Colloquia	30 000
9.	Interunion Commissions	8 000
10.	Projects authorized by the Executive Committee	1 300
11.	Reimbursement of loan from ICSU	5 000
12.	Summer Schools	16 000
Total estimated expenditure		225 000

Details of individual items under heading 3 (Specific Projects of Commissions) are given below:

<i>Commission No.</i>	<i>Project</i>	<i>Sum requested by Commission (U.S. \$)</i>	<i>Sum proposed by Finance Committee (U.S. \$)</i>
4	Information Bureau on Astronomical Ephemerides	600	600
6	IAU Telegram Bureau	1 600	1 600
16	Centre de documentation sur les planètes à Meudon	1 500	1 500
17	Special Working Groups of Commission 17	2 000	1 000
20	Minor Planet Center, Cincinnati	2 000	1 500
27	Catalogue of Variable Stars	3 000	3 000
38	Exchange of Astronomers	22 000	22 000
	Information Bulletin for the Southern Hemisphere	1 500	1 500
		34 200	32 700

A. G. VELGHE  
Chairman, Finance Committee  
August 1970

The President then formally requested the General Assembly to give approval to the report of the Finance Committee, explaining that voting would be by country, each country having a number of votes by one greater than the number of its category of adherence (Article 4 and 7(b) of the Statutes).

The recommendations of the Finance Committee were approved unanimously.

The President thanked Professor Velghe, the members of the Finance Committee and the General Secretary for their valuable work.

14. *Special Nominating Committee.* The President reminded the General Assembly of the agreed procedure by which a Special Nominating Committee – to consist of the President of the Union, the past President (now in the chair), one retiring member of the Executive Committee (to be appointed by the incoming Executive Committee) and four other members (to be appointed by the General Assembly) – is appointed within one year following each General Assembly to propose to the General Assembly candidates for the new Executive Committee.

The President then moved that the General Assembly elect the following Members into the Special Nominating Committee:

G. A. Chebotarev (U.S.S.R.)

J. Delhaye (France)

D. S. Heeschen (U.S.A.)

A. Poveda (Mexico)

This list was adopted to the unanimity, with one abstention.

15 and 16. *Resolutions.* The General Secretary explained that the proposals for resolutions submitted to the General Assembly by the Executive Committee, the National Committees and by Commissions had eventually been passed on to the Resolutions Committee for consideration. Thus, before passing to the vote on the resolutions, Professor Oort would present to the General Assembly the report of the Resolutions Committee.

The President then called upon Professor Oort to take the floor.

#### REPORT BY THE PRESIDENT OF THE RESOLUTIONS COMMITTEE

In addition to the proposals for resolutions of Adhering Organizations, National Committees of Astronomy and Commissions formally included in the Agenda, the Resolutions Committee received a great number of proposals for resolutions from Commissions during the General Assembly.

All proposals for resolutions have been carefully examined, in some cases together with the appropriate Commissions, and the Resolutions Committee wishes now to make to the General Assembly the following proposal:

- \* To refer the proposal under 10a of the Agenda to the incoming Executive Committee
- \* To refer the proposal under 10b of the Agenda to Commission No. 46 as an internal matter of that Commission
- \* To deal with the proposal under 10c of the Agenda in conjunction with point 19 of the Agenda
- \* To adopt the proposal under 10d of the Agenda in the wording to be read later
- \* To adopt the proposal under 10e i of the Agenda in the wording to be read later
- \* To deal with the proposal under 10e ii of the Agenda in conjunction with point 19 of the Agenda
- \* To adopt the proposal under 10e iii of the Agenda in the wording to be read later taking into account the fact that the words ‘...and thus to create conditions for a reduction of the unit of contributions paid by Adhering Countries’ have formally been withdrawn by the appropriate delegation from the original proposal.
- \* To refer the proposal under 10e iv of the Agenda to the consideration of the incoming Executive Committee
- \* To adopt the proposal under 10e v of the Agenda in the wording to be read later
- \* To approve the proposal under 11a of the Agenda as recommended by the Finance Committee
- \* To approve the proposal under 11b of the Agenda as recommended by the Finance Committee
- \* To adopt the proposal under 11c of the Agenda in the wording to be read later and to approve the financial part of that proposal as recommended by the Finance Committee
- \* To acknowledge the withdrawal by Commission No. 23 of the proposal under 11d of the Agenda

- \* To adopt the proposal under 11f of the Agenda in the wording to be read later
- \* To approve the proposal under 11g of the Agenda as proposed by the Finance Committee
- \* To refer the proposal under 11h of the Agenda to Commission No. 46

It should be noted that the proposal under 11e of the Agenda had already been approved at the first session of the General Assembly.

I shall now read the text of the resolutions proposed by the Resolutions Committee for adoption by the General Assembly. This text also covers such proposals of Commissions which had been received during the General Assembly and were found of sufficiently wide interest for consideration by the General Assembly (see next pages).

## RÉSOLUTION NO. 1

*Proposée par le Comité Exécutif*

*Sur les Émulsions Photographiques*

L'Union Astronomique Internationale recommande aux Organisations Adhérentes et/ou aux Comités Nationaux d'Astronomie d'user de leur influence pour obtenir la suppression de toutes les restrictions qui gênent l'approvisionnement en émulsions photographiques d'intérêt astronomique.

## RÉSOLUTION NO. 2

*Proposée par le Comité National d'Astronomie de la R.A.U.*

*Sur la création d'une Commission pour les Échanges d'Équipement*

La XIV<sup>ème</sup> Assemblée Générale de l'Union Astronomique Internationale décide la création d'un Groupe de Travail Commun aux Commissions 9 et 46 pour les Échanges d'Équipement.

## RÉSOLUTION NO. 3

*Proposée par le Comité National d'Astronomie de l'U.R.S.S.*

*Sur la proclamation de 1973 comme Année Copernic*

L'Union Astronomique Internationale recommande de proclamer l'année 1973 Année Copernic.

## RÉSOLUTION NO. 4

*Proposée par le Comité National d'Astronomie de l'U.R.S.S.*

*Sur l'abaissement du prix des publications de l'UAI*

La XIV<sup>ème</sup> Assemblée Générale de l'Union Astronomique Internationale charge le Comité Exécutif d'étudier la possibilité d'abaisser le prix des publications de l'UAI.

## RÉSOLUTION NO. 5

*Proposée par le Comité National d'Astronomie de l'U.R.S.S.*

*Sur la création au sein d'une des Commissions de l'UAI d'une Sous-Commission de la Physique des Étoiles Instables*

La XIV<sup>ème</sup> Assemblée Générale de l'Union Astronomique Internationale demande au Comité Exécutif d'inciter les Commissions Nos. 27, 35 et 36 à organiser des réunions spéciales pour discuter de la Physique des Étoiles Instables et pour envisager la création éventuelle d'un Groupe de Travail sur ce sujet.

## RÉSOLUTION NO. 6

*Proposée par la Commission No. 4 de l'UAI*

*Sur le Temps Universel*

L'Union Astronomique Internationale,

## RESOLUTION NO. 1

*Proposed by the Executive Committee*

*On Photographic Emulsions*

The International Astronomical Union recommends that Adhering Organizations and/or National Committees of Astronomy use their influence to secure removal of all restrictions hindering the supply of photographic emulsions of interest to astronomers.

## RESOLUTION NO. 2

*Proposed by the U.A.R. National Committee of Astronomy*

*On the creation of a Commission for Exchange of Equipment*

The XIVth General Assembly of the International Astronomical Union resolves to create a Joint Working Group of Commissions 9 and 46 for Exchange of Equipment.

## RESOLUTION NO. 3

*Proposed by the U.S.S.R. National Committee of Astronomy*

*On the proclamation of 1973 the Year of Copernicus*

The International Astronomical Union recommends to proclaim the year 1973 the Year of Copernicus.

## RESOLUTION NO. 4

*Proposed by the U.S.S.R. National Committee of Astronomy*

*On less expensive IAU publications*

The XIVth General Assembly of the International Astronomical Union instructs the Executive Committee to investigate the possibility of less expensive IAU publications.

## RESOLUTION NO. 5

*Proposed by the U.S.S.R. National Committee of Astronomy*

*On the creation within one of the IAU Commissions of a Sub-Commission on the Physics of Unstable Stars*

The XIVth General Assembly of the International Astronomical Union requests the Executive Committee to encourage Commissions Nos. 27, 35 and 36 to organize special meetings for the discussion of the Physics of Unstable Stars, and to consider the desirability of creating a Working Group on this subject.

## RESOLUTION NO. 6

*Proposed by IAU Commission No. 4*

*On Universal Time*

The International Astronomical Union,

ayant pris note des diverses propositions faites en vue de modifier la base actuelle du Temps Universel Coordonné (TUC) et

désirant insister sur le fait que les observateurs visuels dans les domaines astronomiques et voisins ont besoin de connaître le Temps Universel (TU1) avec la même précision, c'est-à-dire 0<sup>s</sup>.1, que celle définie par les possibilités sensorielles de l'homme,

demande instamment aux autorités compétentes de s'assurer que les moyens adéquats ont été utilisés pour que le temps TU1, ou la différence TU1-TUC, soit accessible à ces observateurs, et avec cette précision, avant de pouvoir permettre au TUC de différer du TU1 de plus de 0<sup>s</sup>.1.

RÉSOLUTION NO. 7

*Proposée par le Groupe de Travail sur les Données Numériques*

*Sur la création d'un Groupe de Travail Permanent sur les Données Numériques*

La XIV<sup>ème</sup> Assemblée Générale de l'Union Astronomique Internationale décide de créer un Groupe de Travail Permanent sur les Données Numériques.

RÉSOLUTION NO. 8

*Proposée par la Commission No. 17 de l'UAI*

*Sur la dénomination des cratères de la face de la Lune opposée à la Terre*

L'Union Astronomique Internationale accepte les quelques 500 noms proposés par la Commission 17 de l'UAI sur la Lune pour désigner les cratères de la face de la Lune opposée à la Terre.

RÉSOLUTION NO. 9

*Proposée par la Commission No. 33 de l'UAI*

*Sur l'indexation supérieure des nouvelles Coordonnées Galactiques*

La XIV<sup>ème</sup> Assemblée Générale de l'Union Astronomique Internationale décide de supprimer l'indexation supérieure II des nouvelles coordonnées galactiques qui, en conséquence, seront simplement désignées par *l, b*; les vieilles coordonnées conservent l'indexation supérieure I. Il serait bon que les auteurs précisent dans leurs articles que *l, b* se rapporte aux nouvelles coordonnées galactiques.

RÉSOLUTION NO. 10

*Proposée par la Commission No. 40 de l'UAI*

*Sur l'utilisation de l'espace dans des buts scientifiques et autres*

Tenant compte du fait que l'espace est utilisé d'une façon continue et croissante dans des buts scientifiques et autres, l'Union Astronomique Internationale désire attirer l'attention sur le 'Traité sur les Principes régissant les activités des États en matière d'exploration et d'utilisation de l'espace extra-atmosphérique, y compris la Lune et les autres corps célestes', en date du 27 janvier 1967, en particulier sur les Articles IV et IX de ce Traité, et réitère sa propre Résolution No. 1 adoptée en 1961 par la XI<sup>ème</sup> Assemblée Générale et dont le dernier paragraphe est le suivant:

'L'Union Astronomique Internationale... demande instamment à tous les gouvernements engagés dans des expériences spatiales qui pourraient affecter la recherche astronomique, de prendre l'avis de l'Union Astronomique Internationale avant d'entreprendre de telles expériences, et de ne procéder à aucun lancement sans qu'il soit établi d'une manière irréfutable qu'aucun dommage ne peut en résulter pour la recherche astronomique.'

having noted the various proposals to modify the present basis of Co-ordinated Universal Time (UTC) and

wishing to emphasize that visual observers in astronomical and related fields require a knowledge of Universal Time (UT1) to a precision of the same order, namely 0<sup>s</sup>.1, as that of human time discrimination,

formally requests that the appropriate authorities ensure that adequate means have been provided of making UT1, or the difference UT1-UTC, available to such observers, and to such precision, before they permit UTC to depart from UT1 by more than about 0<sup>s</sup>.1.

RESOLUTION NO. 7

*Proposed by the Working Group on Numerical Data*

*On the establishment of a Permanent Working Group on Numerical Data*

The XIVth General Assembly of the International Astronomical Union resolves to establish a Permanent Working Group on Numerical Data.

RESOLUTION NO. 8

*Proposed by IAU Commission No. 17*

*On the names of craters on the far side of the Moon*

The International Astronomical Union accepts the approximately 500 names proposed by IAU Commission No. 17 on the Moon for designating the craters on the far side of the Moon.

RESOLUTION NO. 9

*Proposed by IAU Commission No. 33*

*On the superscript of the new Galactic Co-ordinates*

The XIVth General Assembly of the International Astronomical Union resolves that the superscript II be omitted from the new galactic co-ordinates: henceforth it will simply be *l, b*; the old co-ordinates retain the superscript I. It is desirable that authors indicate in their papers that *l, b* refer to the new galactic co-ordinates.

RESOLUTION NO. 10

*Proposed by IAU Commission No. 40*

*On the uses of space for scientific and other purposes*

Having regard to the continued and increased uses of space for scientific and other purposes the International Astronomical Union wishes to draw attention to the 'Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies' of 27 January 1967, in particular to the Articles IV and IX of that Treaty, and to re-affirm its own Resolution No. 1 of the XI General Assembly, 1961, the final paragraph of which reads:

'The International Astronomical Union...appeals to all Governments concerned with launching space experiments which could possibly affect astronomical research to consult with the International Astronomical Union before undertaking such experiments and to refrain from launching until it is established beyond doubt that no damage will be done to astronomical research.'

## RÉSOLUTION NO. 11

*Proposée par la Commission No. 40 de l'UAI*

*Sur les Emissions Radio*

L'Union Astronomique Internationale  
considérant

- (a) que les observations radioastronomiques sont faites au moyen de récepteurs d'une grande sensibilité,
- (b) que, dans des conditions normales à la surface de la Terre, une certaine protection contre les émetteurs voisins est réalisée grâce à la courbure de la Terre et aux inégalités de terrain,
- (c) que, en revanche, les engins spatiaux émettent vers les antennes de radio-astronomie par une transmission en ligne droite,
- (d) qu'en raison de la haute sensibilité des récepteurs radioastronomiques, de l'étalement de modulation et des harmoniques de la fréquence porteuse, des interférences proviennent d'émetteurs opérant en dehors des bandes allouées à la radioastronomie,
- (e) qu'une Conférence Mondiale Administrative Radio (WARC: World Administrative Radio Conference) doit avoir lieu en 1971 sous les auspices de l'Union Internationale des Télécommunications (UIT) et que son ordre du jour comprend l'étude des problèmes relevant de la Radioastronomie et de l'Astronomie Spatiale,
- (f) que le Conseil International des Unions Scientifiques (CIUS) a créé le Comité Inter-Union pour les Allocations de Fréquence (IUCAF) afin de traiter en son nom les problèmes concernant l'utilisation du spectre des fréquences radio,

recommande que

- (1) l'IUCAF fasse une démarche urgente auprès de la WARC pour lui demander d'imposer des règles strictes à l'emploi des émetteurs situés à bord des engins spatiaux, afin de réduire les émissions faites à partir de ces engins en dehors des bandes de fréquence allouées à la recherche spatiale, et ce d'une façon dépassant largement ce qui est exigé actuellement par les règlements de l'UIT pour les émetteurs au sol;
- (2) l'IUCAF fixe les limites des émissions issues des émetteurs spatiaux en dehors des bandes allouées, en vue d'en faire la recommandation à la WARC;
- (3) l'IUCAF insiste pour qu'un programme suivi soit entrepris par l'UIT afin de réduire encore plus les émissions de tous les émetteurs spatiaux et au sol en dehors des bandes allouées;
- (4) l'IUCAF insiste pour que l'on décourage les émissions provenant des satellites dans celles des bandes allouées à la Radioastronomie sur la base d'un partage.

## RÉSOLUTION NO. 12

*Proposée par le Comité des Résolutions*

*Sur les résolutions adoptées par les Commissions*

Considérant qu'il lui est pratiquement impossible d'accorder une attention particulière à chaque résolution adoptée par chacune de ses 39 Commissions et ayant une confiance entière en ses Commissions, cette Assemblée Générale désire exprimer son approbation des Résolutions adoptées par ses différentes Commissions et recommande aux astronomes de les appliquer dans toute la mesure du possible.

Quant aux autres propositions de résolutions, il est recommandé de les soumettre aux Commissions compétentes. Si elles sont adoptées en tant que Résolutions de Commissions, elles seront appuyées par la résolution 'générale' proposée ci-dessus.

## RESOLUTION NO. 11

*Proposed by IAU Commission No. 40**On Radio Transmission*

The International Astronomical Union  
considering that

- (a) Radio Astronomy observations are made with receivers having great sensitivity,
- (b) under normal earth surface conditions some protection from neighbouring transmitters is effected by earth curvature and terrain effects
- (c) transmitters in space vehicles are exposed to radio astronomy antennae under line of sight conditions
- (d) due to the high sensitivity of radio astronomy receivers interfering signals are received from transmitters operating outside the assigned radio astronomy bands due to modulation spillover and to harmonics of the carrier frequency
- (e) there is to be a World Administrative Radio Conference (WARC), under the International Telecommunication Union (ITU), in the year 1971 whose agenda includes matters dealing with 'Space and Radio Astronomy'
- (f) the International Council of Scientific Unions (ICSU) established the Inter-Union Committee on the Allocation of Frequencies (IUCAF) to speak for it in matters pertaining to the use of the radio frequency spectrum,

recommends that

- (1) The IUCAF take urgent steps to ask the WARC to impose stringent regulations on transmitters located in space vehicles to insure that emissions from the space vehicles outside the assigned space frequency bands will be reduced to an extent greatly in excess of that presently required by ITU regulations for ground based transmitters;
- (2) The IUCAF determine the limits on out of band transmissions by space transmitters to be recommended to the WARC;
- (3) The IUCAF urge that a continuing program be undertaken by the ITU to further reduce out of band transmissions of all transmitters both earth and space bound;
- (4) The IUCAF urge that transmissions from satellites in those bands allocated to Radio-Astronomy on shared basis be discouraged.

## RESOLUTION NO. 12

*Proposed by the Resolutions Committee**On the resolutions adopted by Commissions*

Considering the impracticability of giving individual attention to every resolution adopted by each of its 39 Commissions, and having full confidence in its Commissions, this General Assembly wishes to give its endorsement to the Resolutions adopted by its individual Commissions, and recommends that astronomers give effect to these Resolutions in so far as they are able.

As to the remaining proposals for resolutions, it is recommended to refer them to the appropriate Commissions. In the form of Resolutions of Commissions they will be supported by the 'blanket' resolution, as proposed above.

J. H. OORT  
*Chairman, Resolutions Committee*

The President then moved that the General Assembly approve the report of the Resolutions Committee and adopt resolutions 1 through 12 as recommended. This motion was carried unanimously.

17. *New Members of the Union.* The General Secretary announced that the Executive Committee had, on the proposal of Adhering Organizations and on the advice of the Nominating Committee, admitted 596 new members to the Union, and deleted 27 names from the membership list of the IAU. The names of new Members had been prominently displayed and the General Secretary did not propose to read them. He informed the General Assembly that these names would be incorporated in the alphabetical list of Members to appear in print.

18. *Commissions.*

(a) The General Secretary reminded that the General Assembly had, at the first session, approved the creation of two new Commissions, that is Commission No. 47 'Cosmology' and Commission No. 48 'High Energy Astrophysics', and the merger of Commissions Nos. 23 and 24 into Commission No. 24 on Photographic Astrometry.

(b) The General Secretary submitted, on behalf of the Executive Committee, the following list of Presidents and Vice-Presidents of Commissions for election by the General Assembly, subject to their willingness to serve:

<i>Commission No.</i>	<i>President</i>	<i>Vice-President</i>
4	J. Kovalevsky	R. L. Duncombe
5	J. B. Sykes	K. F. Ogorodnikov
6	P. Simon	J. Hers
7	G. N. Duboshin	P. J. Message
8	W. Fricke	G. van Herk
9	V. B. Nikonov	A. B. Meinel
10	J. T. Jefferies	K. O. Kiepenheuer
12	R. G. Athay	R. G. Giovanelli
14	A. H. Cook	R. H. Garstang
15	V. Vanýsek	A. H. Delsemme
16	G. H. Pettengil	S. K. Runcorn
17	M. G. J. Minnaert	G. P. Kuiper, B. J. Levin
19	H. M. Smith	C. Sugawa
20	F. K. Edmondson	L. Kresák
21	H. Elsässer	J. L. Weinberg
22	R. E. McCrosky	B. A. Lindblad
24	S. Vasilevskis	P. Lacroute
25	D. L. Crawford	M. Golay
26	J. Dommanget	Miss S. L. Lippincot
27	O. J. Eggen	M. W. Feast
28	Mrs E. M. Burbidge	E. B. Holmberg
29	Y. Fujita	O. C. Wilson
30	R. Bouigue	R. F. Griffin
31	G. M. R. Winkler	H. Enslin
33	S. W. McCuskey	L. Perek
34	F. D. Kahn	H. van Woerden
35	E. Schatzman	L. Mestel
36	R. N. Thomas	R. Cayrel
37	G. Larsson-Leander	I. King
38	A. Reiz	P. M. Routly
40	D. S. Heeschen	Yu. N. Parijskij

41	O. Gingerich	W. Hartner
42	M. Plavec	T. Herczeg
43	R. Lüst	R. J. Tayler
44	V. K. Prokof'ev	A. D. Code
45	B. Westerlund	C. O. R. Jaschek
46	Miss E. A. Müller	D. McNally
47	Ya. B. Zeldovich	P. J. E. Peebles
48	H. Friedman	M. J. Rees

This list was approved by the General Assembly

(c) The General Secretary explained that, according to the By-laws, the members of the Organizing Committees of Commissions are appointed by the Commissions themselves, subject to the approval of the Executive Committee and the General Assembly. He accordingly submitted for general approval the list of Organizing Committees which had been approved by the Executive Committee on the advice of the Nominating Committee. The composition of the Organizing Committees of Commissions as approved by the General Assembly are given in the list of Commissions on pages 289–302.

19. *The place and date of the XVth General Assembly.* The President explained that two proposals had been received as to the place of the XVth General Assembly: one, from the Australian Academy of Sciences, to hold the XVth General Assembly in Sydney in 1973, the other, from the USSR Academy of Sciences, to hold the XVth General Assembly in Poland in 1973. The Australian and Polish delegations had agreed on a compromise to be submitted to the General Assembly. This compromise had been worded as follows by the Executive Committee:

‘The Executive Committee, in its meeting of 25 August 1970, has resolved to recommend to the XIVth General Assembly:

(I) To hold the XVth General Assembly in Sydney, Australia in the second half of August 1973 with the normal Agenda. A number of Symposia and Colloquia in conjunction with this General Assembly may be foreseen in Australia.

(II) To hold an Extraordinary General Assembly in commemoration of the 500th anniversary of the birth of N. Copernicus in the first half of September 1973 in Poland. This General Assembly will consist of the following three groups of Symposia:

A 1. Historical Symposium ‘Colloquia Copernicana’ in Toruń (Commission 41 of the IAU and the IUHPS Comité Copernic)

2. Planetary and Galactic Dynamics (IAU Commissions 7 and 33)

B 1. Symposium on Cosmology and Related Problems (IAU Commissions 28 and 47)

2. A topic from the field of Relativistic Astrophysics (IAU Commissions 47, 48 and the IUPAP)

C 1. Explorations of the Planetary System (IAU Commissions 15, 16 and 44)

2. A topic from the field of Stellar Evolution (IAU Commission 35).

of 3 Invited Discourses on the three above fields and of excursions ‘On the Footsteps of Copernicus’.

The President then moved that this proposal be put on the Agenda for the General Assembly, and if approved, voted on by ballot. The General Assembly carried the motion to put the compromise on the Agenda with 35 against 7 votes, with no abstention. The General Assembly then approved the compromise with a majority of 28 against 14 votes, with no abstention. Scrutineers were J. B. Bok, T. Elvius and E. Rybka.

After having announced the result of the ballot, the Chairman called upon Dr H. W. Wood to address the Assembly. Dr Wood spoke as follows:

‘The First suggestion that Australia should offer an invitation to the International Astronomical Union to hold a General Assembly in Australia came from Professor Otto Struve in 1954. He was

then President of the Union and was at a meeting of the Australian National Committee for Astronomy. Soon after this invitations began to be offered and our President has outlined the actions taken by the Executive Committee and the correspondence with the Australian representatives. I am pleased now that I shall be able to report to the Australian Academy of Science the acceptance by the Union of the invitation.

Some preliminary organization has been done. The accommodation which can be offered for commission meetings at the University of Sydney, where the meeting would be held, is of very satisfactory standard and the Campus of the University would provide a pleasant setting. Preliminary arrangements have been made for residential accommodation in some of the University Colleges. Enquiry has also been made for halls in which the large meetings such as General Assemblies and invited discourses could be held and it appears that satisfactory accommodation would be available.

Although it is a hazardous thing to try to predict weather so far ahead, a table of weather information I have compiled shows that there would be a good chance of pleasant sunny days in Sydney towards the end of August. For those who are acquainted with the Mediterranean Coast, it seems that August weather conditions in Sydney are generally similar to those in Marseille in May.

I look forward to seeing many of you in Sydney at the next General Assembly of the Union and hope that you will enjoy your stay in Australia.'

The President thanked Dr Wood and invited Professor W. Iwanowská to speak. Professor Iwanowská presented the Polish invitation as follows:

'Mr. President, Ladies and Gentlemen,

In the name of the Polish Academy of Sciences I have the honour to invite the International Astronomical Union to hold an Extraordinary General Assembly in commemoration of the 500th anniversary of the birth of Nicolaus Copernicus in 1973 in Poland.

The Polish Government warrants a visa and the access to Poland to each legal participant of this Assembly.

The Polish Academy of Sciences will provide grants for about 100 young astronomers, mostly from developing countries, in order to help them to participate in this Assembly.

There are sufficient and appropriate rooms in Warsaw and in other cities for the meetings of this Assembly, as well as hotel accommodations for more than 4000 participants. There are also available student houses in Warsaw and new University cities in Toruń and Cracow, not so splendid as the University of Sussex, yet we hope that our guests will find their stay comfortable and pleasant in our country.

As we have heard, the programme of this Extraordinary General Assembly will contain not only a commemorative session and a historical symposium, but also five other symposia covering those branches of astronomy in which considerable progress has been made in last years. We consider that this is the most appropriate way for the Astronomical Union to give its tribute to Copernicus. His importance for science consists not so much in achievement as in starting: he started modern astronomy and modern science. Therefore we believe that he would be pleased not only by our appreciation of his own work, but also by hearing what has been done in astronomy after him, in the span of less than five hundred years.

To this official invitation I should like to add an informal one. Young Polish Astronomers which were privileged to stay and work at many excellent Observatories and Institutes abroad, asked me to say, how much they would be honoured and glad to see their patrons and many colleagues from abroad in their country as their guests.'

The President thanked Professor Iwanowská for her words.

20. *Election of the new Executive Committee.* The Chairman formally proposed that Professor Bengt Strömgren be elected the new President of the IAU. This was approved by acclamation.

The President reminded the Assembly of the names put forward for consideration at the first session, and formally proposed that Professor B. J. Bok, Professor Sir Bernard Lovell and Professor

E. R. Mustel be elected Vice-Presidents in place of Professors W. N. Christiansen, M. Schwarzschild and A. B. Severny. This was unanimously approved. He then formally proposed that Professor Dr C. de Jager be elected General Secretary in place of Dr L. Perek, and Professor Dr G. Contopoulos Assistant General Secretary in place of Professor de Jager. This was unanimously approved.

The Chairman then invited Professor Strömngren, Professor B. J. Bok, Sir Bernard Lovell and Professor G. Contopoulos to take seats on the platform.

21. *Addresses by the retiring and newly elected Presidents.* The retiring President, Professor O. Heckmann, addressed the Assembly as follows:

'Ladies and Gentlemen, dear Colleagues:

We are approaching the end of our Assembly, when the President takes the opportunity to thank all those with whom he was in close cooperation during the three past years.

It was a great satisfaction indeed to work with the *Executive Committee*: To the whole group and to every single person in it I feel obliged for the atmosphere of frankness and friendship which dominated all our sessions. Our deliberations, sometimes after tough and serious discussions, ended with an astonishing degree of unanimity; this was due to the fortunate talent throughout the group of carefully listening to arguments and weighing them according to their merits for the welfare of the Union, a principle foremost in all our efforts. A cordial vote of thanks goes to the three Members who are now leaving the Executive Committee: Christiansen, Schwarzschild, and Severny. Each one of them made, on various occasions, decisive contributions to our work.

The Executive Committee was very fortunate to have had the permanent active advice of the former President, Professor Swings, and the former General Secretary, Professor Pecker. Pol Swings has served in four successive Executive Committees and Jean Claude Pecker in three. Their long experience was always a safeguard for the continuity of our work. I ask you kindly to show your appreciation by your applause.

The quality of the work of the Union largely depends on the *Special Nominating Committee*. They deserve a special vote of thanks. I was impressed by the clarity of their judgement and I am certain that you will find their proposals, now accepted, satisfactory in the future.

I also should like to express my indebtedness to the *Working Group for the Revision of the Statutes and By-Laws*. I do hope that the life of the Union will be reasonably guided by the new system of rules, which contain the whole substance of the former ones, yet are easier to deal with.

When, in 1967, I took over the Presidency of the Union I declared that I felt happy and even blessed to have the support of two outstanding *General Secretaries*. Today I have to state that my confidence has been fully justified. The permanent contact and frequent meetings I had with Luboš Perek and Kees de Jager gave me the reassurance, in far-reaching matters as well as in smallest details, that with such Secretaries the Union would have a good chance to solve all problems inherent in the explosive growth of astronomy: Their deep love for our science, their clear and careful analysis of complex and delicate problems, their courageous and realistic proposals in preparing decisions – to see all this at work with the most industrious concentration and passionate precision was an experience which filled me with deep admiration and gratitude.

Luboš and Kees, your personal friendship is among the most precious gifts I ever received. Thank you for everything you did for the Union during my three years' term.

Yet there is a third man involved, Dr Arnost Jappel. As Executive Secretary he has been connected with the Union over five years; and each time with a new General Secretary he had and has to change his place of residence. During the time he has been in office the Union has had the full-time service of a man who not only speaks at least six living languages but has, as a professional jurist and experienced administrator, just those qualities the Union has to rely on now and in the future. In particular, I should like to say that without Dr Jappel's juristic conscience the new Statutes would never have gained the quality which I hope the next Executive Committees will esteem. Again, I ask you kindly to show your appreciation in which you also should include the work of our Secretary Mrs Daňková by your applause.

Now I have to turn to our British friends:

First of all our thanks go to our principal host, the Royal Society, acting through the British National Committee of Astronomy. Under the able Chairmanship of Sir Bernard Lovell it approved the appointment of the National Organizing Committee, of which again Sir Bernard was the Chairman, of the Finance and Policy Committee with its Chairman Professor Tayler, and of the Local Organizing Committee chaired by our old friend Donald Sadler. All these Committees, according to their respective level and task, showed their hospitality to our big Assembly and deserve our gratitude. The associated host-organizations were the Corporation of Brighton under Alderman Nettleton and the University of Sussex with its Vice-Chancellor Professor Briggs. We know very well that all these bodies are no abstract entities, but living beings, who had to display much personal initiative and enthusiasm and to transfer them to numerous helpers. We feel deeply obliged to everyone involved. As for the County of Sussex with its beautiful coastline, many astronomers will wish to return to it; and with respect to the University, I am certain I am not the only one who would wish to be young again and to study here.

Our indebtedness is also due to the Astronomer Royal, Sir Richard Woolley, who made the doors of the Royal Greenwich Observatory at Herstmonceux wide open to all of us. Many of us will have gained a deep impression of the enviable possibilities this great institution offers for vast fields of modern research.

Returning to the Local Organizing Committee I feel obliged to say a few words about Donald Sadler.

Having been General Secretary and Adviser to the Executive Committee for 9 years, he became a member of the Special Nominating Committee and of the Working Group for the Revision of the Statutes and By-Laws. Finally, 3 years ago, he took over the heavy burden of the Chairmanship of the Local Organizing Committee. In all of these functions his efforts to achieve a maximum of clarity in all branches of the Union's activities will not be forgotten. When, in later years, someone will write the history of the Union he will easily show to what an astonishing extent the Union's structure is a monument of Donald Sadler's work – The Union may have quite a number of weaknesses. At this moment I feel it is a very weak point indeed that we cannot give Sadler a high rank in an order of merit.

Finally I thank all Members of the Union for their support and every participant for his or her contribution to this Assembly.'

French translation:

*Allocution finale du Prof. Heckmann*

'Mesdames, Messieurs, Mes chers Collègues,

La fin de notre Assemblée Générale approche, et c'est pour le Président le moment opportun de remercier tous ceux avec lesquels il a eu l'occasion de coopérer étroitement au cours des trois années qui viennent de s'écouler.

Ce fut en vérité une source constante de satisfaction que de travailler avec le *Comité Exécutif*. A ce groupe tout entier et à chacun de ses membres en particulier, je tiens à exprimer ma gratitude pour l'atmosphère franche et cordiale qui a caractérisé nos réunions. Nos débats, souvent après des discussions serrées et sérieuses, se sont toujours conclus par une remarquable unanimité; ceci est dû à l'heureux talent qu'ont eu les membres du groupe pour écouter attentivement les arguments, et pour les apprécier justement dans le souci de l'intérêt de l'Union, qui fut le principe intangible de tous nos efforts. L'expression cordiale de nos remerciements va aux trois membres du Comité Exécutif qui le quittent maintenant: Christiansen, Schwarzschild et Severny. Chacun d'eux a contribué, en des occasions diverses, et de façon décisive, à nos travaux.

Le Comité Exécutif a eu la chance d'avoir l'avis permanent et actif de l'ancien Président le Professeur Swings et de l'ancien Secrétaire Général le Professeur Pecker. Pol Swings a servi dans

quatre Comités Exécutifs, J.-C. Pecker dans trois. Leur longue expérience a toujours permis d'assurer la continuité de notre travail. Je vous demande de leur montrer votre appréciation par vos applaudissements.

La qualité du travail de l'Union dépend grandement du *Comité Spécial des Nominations*. Ses membres méritent une expression spéciale de nos remerciements. J'ai été impressionné par la clarté de leur jugement et je suis sûr que vous trouverez que leurs propositions, acceptées maintenant, se montreront dans l'avenir très satisfaisantes.

Je souhaite aussi exprimer ma reconnaissance au *Groupe de Travail pour la Révision des Statuts et des Règlements*. Je veux espérer que la vie de l'Union sera raisonnablement guidée par le nouveau système de règles qui, sans s'éloigner sur le fond des règles anciennes, seront d'un emploi plus pratique.

Quand en 1967 je suis devenu Président de l'UAI, j'ai déclaré que j'étais heureux, et même que c'était pour moi une bénédiction, d'avoir l'aide de deux remarquables Secrétaires Généraux. Aujourd'hui je dois dire que ma confiance a été pleinement justifiée. Le contact permanent, les réunions fréquentes que j'ai eues avec Luboš Perek et Kees de Jager m'ont renforcé dans mon sentiment que, pour des problèmes de grande importance aussi bien que dans les plus petits détails, l'Union, avec de tels Secrétaires, aurait les plus grandes chances de pouvoir résoudre tous les problèmes liés à la croissance explosive de l'astronomie: leur amour profond de notre science, leur analyse claire et soigneuse de problèmes délicats et complexes, leurs propositions courageuses et réalistes dans la préparation des décisions – de voir tout cela aller de pair avec la concentration la plus active et une précision passionnée, fut pour moi une expérience qui m'a rempli d'une admiration et d'une gratitude profondes.

Luboš et Kees, votre amitié personnelle est l'un des dons les plus précieux que j'ai jamais reçus. Merci de tout ce que vous avez fait pour l'Union au cours de ces trois années.

Un troisième homme encore est concerné, le Dr Arnošt Jappel. Comme Secrétaire Exécutif, cela fait cinq ans qu'il est associé avec l'Union; chaque fois qu'un nouveau Secrétaire Général fut désigné, il a dû, et doit encore, changer de résidence. Pendant son activité au sein de l'Union, il a eu les responsabilités, à plein temps, d'un homme qui non seulement parle six langues, mais encore possède, en tant que juriste de profession et administrateur expérimenté, précisément ces qualités dont l'Union a besoin maintenant comme demain. En particulier, je voudrais dire que, sans la conscience des problèmes juridiques qu'a le Dr Jappel, les nouveaux Statuts n'auraient jamais atteint la qualité que, j'espère, le nouveau Comité Exécutif sera à même d'estimer. A lui aussi je vous demande de montrer notre appréciation et de lui associer, dans vos applaudissements, notre Secrétaire, Madame Daňková.

Je me tourne maintenant vers nos amis britanniques. Tout d'abord, nos remerciements vont à notre hôte principal, la Royal Society, qui a mené son action par l'intermédiaire du Comité National Britannique d'Astronomie. Sous la présidence efficace de Sir Bernard Lovell, la Royal Society a approuvé la désignation du Comité National d'Organisation dont Sir Bernard Lovell fut aussi le Président, celle du Comité des Finances et de l'Orientalisation, sous la présidence du Professeur Tayler, et le Comité Local d'Organisation, présidé par notre vieil ami Donald Sadler. Tous ces comités, dans le cadre de leurs responsabilités respectives, ont montré leur hospitalité à notre grande Assemblée et ont droit à notre gratitude. Les organisations associées dans cette hospitalité furent la Corporation de Brighton sous la présidence de Alderman Nettleton et l'Université du Sussex avec son Vice-Chancelier, le Professeur Briggs. Nous savons très bien que tous ces organismes ne sont pas des abstractions, mais des êtres vivants qui ont dû déployer un grand enthousiasme, susciter beaucoup d'initiatives individuelles, s'associer des aides nombreuses. Nous nous sentons profondément reconnaissants vis-à-vis de tous ceux qui nous ont ainsi aidés et accueillis. Quant à la Province du Sussex, riche de ses admirables rivages, nombreux sont les astronomes qui voudront y revenir; et pour ce qui concerne l'Université, je suis sûr de ne pas être le seul à souhaiter redevenir jeune pour y étudier.

Notre dette est grande aussi vis-à-vis de l'Astronome Royal, Sir Richard Woolley, qui nous a grand ouvert les portes de l'Observatoire Royal de Greenwich à Herstmonceux. Beaucoup d'entre

nous auront conservé une profonde impression des possibilités enviables que cette grande institution offre à de vastes domaines de la recherche moderne.

Je reviendrai maintenant au Comité Local d'Organisation, car je me sens obligé de dire quelques mots de Donald Sadler.

Il a été Secrétaire Général, puis Conseiller du Comité Exécutif pendant neuf ans; il est devenu membre du Comité Spécial des Nominations et du Groupe de Travail pour la Révision des Statuts et Règlements. Enfin, depuis trois ans, il assume la lourde charge qu'est la présidence du Comité Local d'Organisation. Dans chacune de ces fonctions, ses efforts pour arriver à un maximum de clarté dans toutes les branches des activités de l'Union ne pourront pas être oubliés. Plus tard, quand quelqu'un écrira l'histoire de l'Union, il montrera sans mal à quel point la structure de l'Union est en vérité un monument étonnant à Donald Sadler. L'Union peut en vérité avoir ses faiblesses. Aujourd'hui, il me semble qu'elles ne peuvent nous empêcher de donner à Sadler un rang très élevé dans la hiérarchie du mérite.

Enfin, je remercie tous les membres de l'Union de leur appui, et chaque participant, ou participante, de sa contribution à cette Assemblée.

The newly elected President, Professor Strömngren, then addressed the Assembly as follows:

'Dear Colleagues, Ladies and Gentlemen,

In addressing you I wish, first, to express my deep gratitude to the Assembly for having elected me President of the IAU. It is indeed a great honor to serve in an office that has been held by so many outstanding Astronomers; and it is both a challenge and a source of great satisfaction to be given the opportunity to work for the Union that means so much to the astronomical community.

To you, Otto Heckmann, I want to say that for me it is not only a great honor, but also a heart-warming experience to have been elected *your* successor. We have been friends for forty years, and to me, as to others, you have been a central and admired figure in our scientific lives. Only a few days ago, when the University of Sussex bestowed upon you a great honor, we listened to an admirable account of your achievements. On this subject I must be brief. However, three great contributions come to mind on this occasion. Your pioneer work on the color-magnitude diagram of galactic clusters is an example of great scientific achievement resulting from *continuity* in effort and *innovation* in the formulation of the goal. In your work for ESO you and your collaborators have succeeded in building a splendid foundation for future developments that will be of the greatest importance for European Astronomy. And as President of the IAU you have headed an Executive Committee with an admirable record of achievements.

To the newly-elected Executive Committee it means very much indeed that Otto Heckmann and Luboš Perek will council us and support our efforts through the next three-year period.

At the Berkeley General Assembly and at every General Assembly since then both the opportunities and the difficulties stemming from the growth of the IAU have been emphasized. In addressing the Thirteenth and the Fourteenth General Assemblies Otto Heckmann has spoken strongly and convincingly against fragmentation of the IAU as a solution.

I share his view on this, but the problems remain, and the newly-elected Executive Committee is accepting a challenge of great magnitude. I trust that in its work the Executive Committee will, as in the past, have the invaluable cooperation of the National Committees and the Commissions of the Union, also between Assemblies.

Among Scientific Unions the IAU has an admirable record in that almost every scientific activity and scientific center of the astronomical community is strongly represented in the life of the Union. I want to express the hope that this will continue, and that we shall see further growth and strengthening in this respect.

May optical-, radio-, and space-astronomers as well as physicists working on astronomical problems regard the IAU as an excellent forum for the presentation of their results and for strong scientific interactions with colleagues working in other fields. And may the IAU be able to contribute

to the solution of science-administrative problems arising out of the diversity of the research efforts in Astronomy.

When the Fourteenth General Assembly of the IAU opened the Union had received two fine and gratefully acknowledged invitations for the next General Assembly. The present General Assembly in a spirit of collaboration has made its decision, and when we look ahead we see great opportunities. But it may take some effort, by all of us, to take full advantage of the opportunities without losing out, temporarily, in the struggle for integration and unity in the scientific life of the IAU.

I am convinced that the IAU, in good or difficult times, has enormous strength because its members are in considerable measure united: in striving for addition to knowledge in a great field of science, and through their conviction that the goals are best attained in co-operation.

May the International Astronomical Union thrive in the coming years.'

22. *Closing Ceremonies.* The Chairman called upon Professor A. Blaauw to propose a comprehensive vote of thanks. Professor Blaauw then spoke as follows:

'Dear Colleagues, Ladies and Gentlemen,

It is my privilege to have the opportunity of proposing, on behalf of the participants, a vote of thanks to all those, through whose efforts this General Assembly has become so successful, and of conveying to them our feelings of gratitude and indebtedness.

We were with more than 2000 participants, and if we would take a poll, there would be undoubtedly as many opinions expressed as to what the Union and this General Assembly have meant to us, – but I am sure we are *unanimous* in our deep appreciation of what the organizers of this Assembly have done for us, and for what it implies for the IAU.

As one who has attended a fair number of assemblies – since I had, as a student, my first cautious look at the one in Stockholm in 1938 – one notices the changing nature of the Assemblies. Some things have changed enormously. The audience has become ten times larger, the number of commissions has grown considerably; the participants, I believe, are on the average much younger than they were then; many new discoveries entered the picture, but much also remains the *same*: The feeling of anticipation with which we travel to the meetings to hear about recent developments and discoveries, and the anxiousness to meet colleagues and friends for private discussion of our work. One wonders whether not, indeed, this part of the role of the Union's General Assembly has become of greater importance than ever: providing a meeting place for individuals and informal gatherings *as well* as for commission sessions.

A strong recollection of this assembly will be that of the spacious rooms at Falmer House with their colourful chairs, occupied by participants in conversation in all degrees of seriousness, a continually changing, lively population. I guess that for many of us *this*, in the midst of the green lawns and the modern lecture facilities, will be the image we carry home of one of our excellent hosts, the University of Sussex. Before we leave, we want to express our gratitude to all those who made this event possible.'

'Le Président a exprimé sa gratitude à nos Secrétaires Généraux pour leur travail exceptionnel pour l'Union. Je suis sûr que vous me permettrez, Monsieur le Président, d'ajouter quelques mots au nom des participants sans grade.

Louis XIV disait: 'l'État, c'est moi...'; pour nous, les astronomes ordinaires, quelque soit notre pays ou notre spécialité, nous pensons: l'Union, ce sont nos Secrétaires Généraux. Nous attendons d'eux les directives et les sages conseils dans de si nombreuses questions concernant l'Union. Le fardeau des problèmes à résoudre par l'Union repose normalement sur eux. Une grande partie de leur travail est faite en silence, sans que nous ne nous en apercevions jamais. Nous ne prenons vraiment conscience de l'énorme travail qu'ils font pour nous, et de leur dévouement désintéressé à la cause de l'Union, qu'à l'occasion des Assemblées Générales.

Nous savons que Kees de Jager continuera trois ans encore à travailler pour nous. Mais Luboř Perek va nous quitter, et je suis certain d'exprimer un sentiment partagé par tous en vous remerciant

profondément, Luboš, pour tout ce que vous avez fait pour nous durant ces six années. Nous vous souhaitons un retour heureux et bénéfique à vos travaux de recherche auxquels vous êtes si attaché.'

Our hosts were manifold: the Royal Society through the National Committee for Astronomy, the University of Sussex, the Corporation of Brighton and the Royal Greenwich Observatory. The President has already expressed our deep obligation with respect to all of these. We, participants, are filled with the greatest admiration for what the Local Organizing Committee has achieved under the chairmanship of Dr Sadler. As with so many great enterprises, success or failure depends to a large extent on one man in whose hands lies the direction of the programme. To you, Dr. Sadler, go our warmest thanks for the outstanding way in which you guided the organization for these meetings. The President, who has witnessed the preparatory work of your Organizing Committee from so much closer than we could do, has just expressed his feelings of deep appreciation, and I can do no better than tell you how much these are shared by all of us. Thank you very much indeed.

Busy as we have been, I guess that many of us have had only a quick glance, if any, on those pages of our programme booklet which list the *names* of the Local Organizing Committee and their aids. We were *too* busy running from room I to room X, to room IV, to room XI etc. guided by the *especially erected* IAU street signs, but at this moment we think of the admirable way in which these and countless other provisions were made under the responsibility of the registrar of the University of Sussex, Mr. Shields. We are reminded at *this moment* again of the many arrangements that were made here in *Brighton* and deeply appreciate the work done by Mr. Bedford of the Corporation of Brighton and his staff. If, during one of the excursions we had a chance to withdraw for a while from the busy dealings on the Campus, and to experience the serene atmosphere in one of the beautiful old churches in the lovely countryside; or if we enjoyed one of the many cultural evening events, this was, as I understand, made possible through the excellent arrangements made under the responsibility of our astronomical colleagues Dr Smith of the Royal Greenwich Observatory and Dr Tayler of the University of Sussex. We thank them for all they did, and include in it their excellent administrative and secretarial staff Mr Pepperel, Miss Hanning, Miss Adams, Mrs Gillingham and Mrs Norris.

A special word of thanks we owe also to the local participants – mostly junior members of the scientific staff and research students, who assisted us and the Organizing Committee so magnificently – here and at Herstmonceux – and we are equally grateful for the helpful and cheerful assistance of the many staff members of the University of Sussex.

May I conclude by assuring all of those who in any way contributed to the success of this assembly that what they did goes beyond providing us with the smoothly running facilities of a very large and complicated assembly. It is one of the very good things of the IAU that it has been able to keep the various branches of astronomy together. We have noticed how desirable this remains, seeing how domains that may at one time have appeared to be unrelated, unexpectedly became fields of common interest. But to continue, having them all dealt with at one assembly will only be possible if such large meetings as this one can really be handled. By showing us that it could be done indeed, the Local Organizing Committee has rendered us a great service, for which we feel deeply obliged. We thank you most cordially.'

On behalf of the ladies, Mrs Christiansen addressed the Assembly as follows:

'Mr President, Ladies and Gentlemen,

It is with the warmest pleasure that, today on behalf of the women guests, I thank our hostesses and hosts for all that they have done for us.

Every woman present realizes and appreciates the enormous amount of time, energy and thought which has gone into the preparation and the carrying out of the programme. Every possible arrangement has been made for our comfort and convenience. The hospitality of the common room, the music, the excursions, the play, the receptions and informal gatherings have been a constant delight.

I suppose that the primary object of the organizers of the women's activities has been to give pleasure to their guests. This they have done abundantly.

But we should like them to realize that we do appreciate the deeper purpose that has been served. This has been yet another opportunity for new friendships to be made among women who come from many lands and who speak many different languages; an opportunity for old friendships to be strengthened.

In this way also the Assembly has contributed to that all important task of mankind, the furtherance of international understanding.

Will you please accept our sincere thanks.'

The Chairman then called upon the retiring General Secretary, Dr Perek, who spoke as follows:

'Three years ago I expressed from this platform – in another country and in another city – the confidence that pleasant aspects of the post of the General Secretary of the IAU would prevail. Today I can say that they did and overwhelmingly so.

The administration of the Union requires considerable work and in this I was helped by an understanding Executive Committee, by a deeply interested President and by a friendly and most dependable Assistant General Secretary. In the Secretariat itself I have always had the benefit of legal advice and opinion of Arnošt Jappel, of the tallying accounts kept by Mrs. Daňková, and of the perfect typing of Mrs. Hermanová and later of Miss Tůmová. Here, at the General Assembly, all matters concerning membership were expertly handled by Mrs. Kohoutek-Sachs and Miss Drouin spared no effort in collecting documents to be published in the proceedings. The youngest member of our staff, Miss Reijnen, was prevented by a sudden illness, which confined her to a hospital here in Brighton, from continuing in her enthusiastic help.

My thanks are due to many Members of the Union for their patience in reading the 3713 letters I wrote to them from Prague. May I express this time my hope that all those letters were understood in the same friendly and cooperative spirit in which they had been written.

The administration of the Union becomes more and more complex. It is not only the growth in membership which requires more organization but also the increasing involvement in interdisciplinary programmes and, evidently most important, the spectacular expansion of many branches of astronomy. My successor will have a pleasant but difficult job. He will need all the support you have given to me, and perhaps more. I wish him full success.'

The Chairman then invited the new-elect General Secretary, Professor de Jager, to take the floor. Professor de Jager had the following to say:

'Mr. President, dear Colleagues,

Being asked to serve the Union for another three years, in a function held in the past by so many eminent astronomers, I would, first of all, thank the General Assembly for their confidence in me. I realise the weight of my new task, yet I accept it with a feeling of happiness. Our Union, though growing rapidly, has remained a large family, closely held together by our beautiful science. In this family I feel my future function somewhat like that of the kitchen master. I shall carefully watch that the food is never burnt or served uncooked!

The past three years were, for me of course, a period of some hard working, but above all, one of most cordial contacts and friendships with so many astronomers; too many to mention. Yet I hope that you will allow me, once again, to thank our retiring President, Otto Heckmann, for the energetic, but at the same time so human and wise way he has guided the Union. To serve under his Presidentship was a great experience; I thank him for his continuous friendship.

Most admirable was the way Luboš Perek dealt with so many intricate problems of the Union's secretariat. Gradually, cordially and friendly in the literal sense of the word he prepared me for my future function, and thus guaranteed the continuity in the chain of Union Secretaries.

I am very pleased that the IAU staff, my good friend, the executive secretary Arnošt Jappel, and

Mrs Daňková have accepted my invitation to move with the Secretariat to Utrecht. The Union owes very much to these devoted staff members; the continuation of their services is the best guarantee for a sound future of the IAU.

Thank you all again!

The Chairman then closed the meeting around noon with the following words:

'I thank you for your attendance, and I wish you all a happy return home. I hereby formally declare closed the fourteenth General Assembly of the International Astronomical Union.'