

INTERNATIONAL ASTRONOMICAL UNION
Union Astronomique Internationale

THIRTY-SIXTH MEETING OF THE EXECUTIVE COMMITTEE

Copenhagen, Denmark

Monday 28 August to Friday 1 September 1972

P R O C E E D I N G S

The 36th meeting of the Executive Committee of the International Astronomical Union was held, upon invitation of its President Professor Bengt Strömngren, in the rooms of the Royal Danish Academy of Sciences, Copenhagen, from 28 August to 1 September 1972. Sessions started at 9,30 and ended at 17,00 except on Wednesday 30 August when they ended at 12,00, the afternoon having been devoted to an excursion.

Present were:

B. Strömngren, President
M.K.V. Bappu, Vice-President
L. Gratton, Vice-President
B. Lovell, Vice-President
E.R. Mustel, Vice-President
J. Sahade, Vice-President
O. Heckmann, former President
L. Perek, former General Secretary
C. de Jager, General Secretary
G. Contopoulos, Assistant General Secretary
A. Jappel, Executive Secretary
Mrs J. Dankova, Secretary

B.J. Bok, Vice-President, was prevented by illness in the family from attending the meeting

Introductory Note: This report has been prepared in the order of the items overleaf in the Summary List of the Agenda. The documents related to the Agenda, and distributed before and during the meeting, have not been included in the present report: they will be kept in the archives of the Union for further reference.

A G E N D A

I. OPENING BY THE PRESIDENT

II. ADMINISTRATIVE MATTERS

1. Report of the 35th Meeting of the Executive Committee
2. Approval of the Agenda
3. Report by the General Secretary on the Administrative Office
4. Report by the President on the progress made in SNC (Special Nominating Committee)
5. Contract with the Publisher
6. Adoption of Rules for Scientific Meetings (Transactions XIVB, pp. 284-288) and Style Book (Transactions XIVB, pp. 254-264) as Working Rules
7. Informal representation of young IAU Members at meetings of the Executive Committee
8. Change of Statutes and By-laws - Institution of President Elect
9. Contacts with National Authorities
 - a) Binaries (South Africa)
 - b) Apollo Missions (U.S.A.)
10. New Adhering Organizations - with report on mainland China
11. IAU Commissions
 - a) Approval of new Commission members
 - b) Reorganization of Commissions related to the Planetary System
12. General Assemblies
 - a) The XVth General Assembly - report by the General Secretary on the state of preparations
 - b) Flights to Sydney
 - c) The extraordinary General Assembly - report by the Assistant General Secretary on the state of preparations
 - d) The XVIth General Assembly - French invitation
 - e) Future General Assemblies - appeal for invitations
13. Finances
 - a) The General Secretary reports on the financial situation of the IAU
 - b) Discussion of budget for 1973
 - c) Discussion of comprehensive budget for 1974-1976
 - d) IAU grants towards participation of young astronomers in the XVth General Assembly
 - e) Australian grants to young astronomers
14. Publications
 - a) The Assistant General Secretary reports on IAU publications
 - b) Report by the General Secretary on Reports of Astronomy 1973

III. SCIENTIFIC ACTIVITY

15. Scientific Content of XVth General Assembly
 - a) Invited Discourses
 - b) Joint Discussions
 - c) Commission Meetings

16. Scientific Content of extraordinary General Assembly
17. IAU Symposia and Colloquia - report of the Assistant General Secretary
18. Other Scientific Meetings - report of the Assistant General Secretary
19. Summer Schools

IV. RELATIONS WITH OTHER ORGANIZATIONS

20. ICSU and IAB (ICSU Abstracting Board)
21. COSPAR
22. IUCM (Inter-Union Commission for Studies of the Moon)
23. IUCSTP (Inter-Union Commission on Solar-Terrestrial Physics)
24. FAGS (Federation of Astronomical and Geophysical Services)
25. IUCAF (Inter-Union Commission on Frequency Allocations for Radio Astronomy and Space Science)
26. URSI - IUGG (Union Radio-scientifique Internationale - International Union of Geodesy and Geophysics)
27. General Relations to other Unions

V. VARIA

- a) Copernicus Centre in Poland
- b) Meeting with Science Teachers organized by Commission 46 during XVth General Assembly
- c) Invitation of members of other organizations and of young astronomers to participate in the XVth General Assembly - delegation
- d) Extension of Symposium No. 58 by one day
- e) Dr Sadler's letter regarding the extraordinary General Assembly
- f) Working Group on Numerical Data
- g) Future of the IAU

VI. NEXT MEETING OF THE EXECUTIVE COMMITTEE

VII. CLOSING BY THE PRESIDENT

I. OPENING BY THE PRESIDENT

The President opened the meeting on Monday 28 August 1972 at 9,30 a.m. He welcomed the participants on behalf of both the Royal Danish Academy of Sciences and the International Astronomical Union. He regretted the absence of the Vice-President B.J. Bok due to a serious illness of his wife Priscilla Bok, and proposed to send Prof. Bok a telegram of good wishes. He further proposed to send telegrams of greetings to former IAU Presidents and to the former General Secretary, Prof. J.-C. Pecker. These proposals were approved.

II. ADMINISTRATIVE MATTERS

1. Report of the 35th Meeting of the Executive Committee

The Report had been distributed to the members of the Executive Committee in September 1971. The comments received had been incorporated in it. With this in mind the meeting unanimously approved the report of the previous meeting of the Executive Committee.

2. Approval of the Agenda

The Agenda as distributed before the meeting was approved with the understanding that the order of items to be discussed may be changed. Point V. VARIA was elaborated during the meeting as in the AGENDA included in the present report.

3. Report by the General Secretary on the Administrative Office

The General Secretary reported that the work of the Secretariat is satisfactory. No change occurred in the staff since the last meeting. With increasing load of work a further staff member will have to be employed. The Secretariat of the Laboratory for Space Research in Utrecht is prepared to help.

No permanent seat of the IAU will be established in the Paris Observatory until 1975. On the other hand, ICSU has already moved to Paris on the invitation of the French Government and with their subvention. COSPAR is likely to obtain premises in the same building as ICSU and will also be subventioned. Thus if the IAU decides for Paris it need not be too modest. The decision will have to be taken in about 4 years and the future General Secretary will have to be informed of that possibility. The triennial moving of the Secretariat from one place to the other is a heavy strain on the staff and considerably burdens the budget of the IAU.

In the discussion the following observations were made: A permanent seat may influence the choice of the General Secretary; it will exclude the possibility of the General Secretary living in the place of the Secretariat, which would require to rely on the permanence of the Executive Secretary; the archives will have to be moved to the permanent seat of the Secretariat.

It was resolved not to take any further steps in this regard without previous discussion in the Executive Committee.

4. Report by the President on the progress made in the SNC

The President informed the meeting that the Special Nominating Committee had agreed on the candidates for the future President and the future Assistant General Secretary. Both candidates had been duly informed and accepted the nomination.

The next step will concern the nomination of 3 Vice-Presidents. Certain names were proposed and discussed. Certain regions should be respected, such as: eastern countries, Latin American countries and the Pacific area.

5. Contract with the Publisher

In his report the General Secretary emphasized that if the contract with D. Reidel Publishing Company regarding the publication of IAU proceedings were to terminate on 1st September 1973, notice would have to be given not later than 1 September 1972. In view of the negotiations with some other publishers and the fact that the meeting of the Executive Committee is being held around 1 September Reidel proposed to extend the deadline for the notice until 1 November 1972.

As resolved by the Executive Committee in its previous meeting the General Secretary had asked four publishers for their terms of a new contract. Gauthier-Villars and Blackwell are not interested. Springer Verlag submitted an offer with terms less favourable than in the present contract with Reidel. The North-Holland Publishing Company submitted no specified offer, wished however to remain open. It also suggested the possibility of printing from camera-ready copies.

In the discussion which followed it was regretted that the prices of IAU publications are high and continued increasing. Ways and means will have to be sought to make IAU publications accessible to the general reader and to libraries as well. A change in the type of the meetings may come into consideration. It may become necessary to suppress the series of IAU volumes and to publish review papers and abstracts in journals. Two prices for IAU volumes may be introduced: one, higher, for libraries and institutions, the other one, lower, for individuals. This possibility will have to be discussed in more detail at the meeting of the Executive Committee in Sydney. It also was remarked that the IAU publications are sometimes out of date and duplicate previously published papers; this however appeared to refer to "old-style proceedings", i.e. including contributed papers. The number of Symposia may have to be reduced and that of Colloquia increased. Only invited review papers should appear in our publications. The idea of setting up an IAU publishing house was abandoned. It may become necessary to assign to IAU Symposia a certain number of pages. It was realized that the problem is too complex to be solved at once. It was agreed that:

- 1) The Executive Committee will support the General Secretary and Assistant General Secretary in their efforts to make the Symposium volumes conform with Rules
- 2) The Executive Committee will guide the General Secretary and Assistant General Secretary in their negotiations with publishers
- 3) The Executive Committee will act as an advisory body to the General Secretary and Assistant General Secretary, and Dr Perek will help the Assistant General Secretary to gather the necessary information and bring a proposal before the Executive Committee meeting in Australia.

As to the contract it was decided:

- 1) to ask Oxford University Press for an offer
- 2) to include in the letter the possibility of camera-ready copies, and to put the same question to Springer and Reidel
- 3) to consider, in the contract, type-setting and camera-ready copies, dependent on the quality of the text, and to have in mind 3 possibilities: type-setting, offset, and mixed form
- 4) to set up rules for writing equations in offset
- 5) to keep library prices at a level acceptable to libraries
- 6) to be elastic in the negotiations

In general it was felt that if other publishers are not much cheaper it would be preferable to stay with Reidel's.

6. Adoption of Rules for Scientific Meetings and Style Book as Working Rules

The meeting took the following resolution:

Article 1 of the Working Rules shall be complemented by a second sentence reading:

"The General Secretary shall publish a Style Book with Rules covering the preparation of Publications of the Union."

The following two articles shall be added to the Working Rules:

V.

Scientific Meetings

32. The General Secretary shall publish rules for scientific meetings organized or sponsored by the Union.

VI.

External Contacts

33. No dealings with third parties, attributable to the Union, shall be undertaken by any Member of the Union except with the authority of the General Secretary.

7. Informal representation of young IAU Members at meetings of the Executive Committee

It was found that the line dividing young astronomers from senior ones is not clear-cut. Moreover it would be difficult to find adequate representation from so called "young astronomers" of various countries and regions. Earlier experience shows that younger people are interested more in science than in administration. The discussion showed that the opinion of the

Executive Committee had not changed. The age factor should be taken into consideration in the deliberations of the Special Nominating Committee. Such a recommendation will be made.

8. Change of Statutes and By-laws - Institution of President Elect

In the discussion it came to the fore that the continuity in the work of the Executive Committee is sufficiently safeguarded by the institution of the Assistant General Secretary, who normally succeeds the General Secretary, and by the overlap of the terms of the Vice-Presidents. Moreover the General Secretary and the President become advisers after their terms, so that the person of the General Secretary actually serves 9 years in the Union, the President and Vice-Presidents 6 years. Thus it appears redundant to introduce the office of a President Elect in the IAU. It, however, is recommended to invite every newly elected President informally to participate in the last meeting of the outgoing Executive Committee.

9. Contacts with National Authorities

The Executive Committee examined, on two cases, whether it is appropriate for the General Secretary directly to correspond with national authorities and/or heads of states.

- a) In South Africa it was decided to discontinue Double Stars Research. This resulted in reactions of the Presidents of Commission 26, on Double Stars, and of Commission 20, Positions and Motions of Minor Planets, Comets and Satellites. The letter of the latter addressed to the President of the South African Council of Scientific and Industrial Research was in the form of a petition signed by several attendants of an IAU Colloquium and included the words that the "action to downgrade the activities of the Republic Observatory in South Africa and possibly to close it and disperse its library and instruments was deplored".

The discussion showed unanimous ~~ag~~ assent of the Executive Committee in considering the action of the President of Commission 20 too far gone.

It was resolved that the activity of the Presidents of Commissions should be limited to the sphere inside the Union and not transgress it. This view led to the formulation of article 33. of the Working Rules as under point 6. of the present Report. The resolution will be published in the Information Bulletin.

- b) The General Secretary had been asked by the President of Commission 17, on the Moon, to bring to the attention of the U.S. authorities the IAU resolution on Lunar Research adopted at Brighton, and thus to prevent a premature discontinuation of the Apollo Missions. The letter of the President of Commission 17 had reached the General Secretary on 24 Decem-

ber 1971, and the corresponding request had to be in the U.S.A. before 1 January 1972, if it was to be effective. The General Secretary addressed his letter to President Nixon stressing that he did not wish to discuss the internal reasons which may lead to a termination of the Apollo Programme, emphasizing that the Apollo Programme is of interest to the world-wide astronomical community, and transmitting the IAU resolution in question. This letter brought a response from Dr Newell, Associate Administrator of NASA.

In the discussion it became apparent that the General Secretary has the right to address himself to heads of states, that there are precedents of such cases, and that such action may in some urgent cases be the only solution. Prof. Gratton was of the opinion that such action should be taken with the previous consent of the Executive Committee and after consultation, if necessary over the telephone, with the National Committee in question. The President wished to go on the record by stating that he would have approved the letter of the General Secretary had he been contacted before the action was taken. It was the general feeling that such cases should be handled with utmost care and consideration.

10. New Adhering Organizations - with report on mainland China

The General Secretary informed the meeting that no new countries had applied for admittance to the IAU. As regards the People's Republic of China, no answer has come in as yet to the letter of General Secretary inviting Chinese Astronomers to re-join the Union. It was resolved to use the good services of Professor Christiansen and of Dr Frank Yang to open up new contacts with astronomers of mainland China. Another possibility consists in writing to those Chinese authorities with whom we had been in contact in 1961.

In this connection it was felt that the expulsion of Taiwan from the Union as condition for the Chinese Republic joining it would be intolerable.

11. IAU Commissions

a) Approval of new Commission members.

The Executive Committee unanimously approved the co-optation of Prof. V.R. Eshleman and Dr G.L. Tyler as members of Commission 16, Physical Studies of Planets and Satellites, that of Dr B. Warner as member of Commission 27, Variable Stars, and that of Dr T.P. Stecher and Dr K.S. Krishna Swamy as members of Commission 34, Interstellar Matter and Planetary Nebulae. Mrs Betty Blanco was approved as new Consultant of Commission 20, Positions and Motions of Minor Planets, Comets and Satellites, and Mrs Dr Zinajda Sokolowskaja as new Consultant of Commission 41, History of Astronomy. The wish of Prof. H. Dingle to withdraw from Commission 31, Time, and Commission 41, History of Astronomy, was acknowledged.

b) Reorganization of Commissions related to the Planetary System

The General Secretary had written a letter to Presidents of Commissions 15, 16, 17, 20, 21, 22, 40 and 44 asking their opinion about the creation of an IAU Commission on Interplanetary Gas. The reaction to this letter indicated that the idea of a Commission on Interplanetary Medium (Matter) had the support of the Presidents contacted and that there would be further structural problems to discuss. On the basis of the replies the General Secretary proposed to re-name

Commission 21 as Commission on Interstellar Medium
(or Gas or Dust)

and

Commission 15 as Commission on Physical Studies of Comets
and Asteroids

This suggestion will be brought to the attention of the Commissions in question.

The size of Commission 40, Radio Astronomy, was brought up. It was felt that splitting this Commission up would only duplicate the situation as it is in URSI, and serve no real purpose. Hence it was agreed that no action regarding Commission 40 should be taken by the Executive Committee unless the necessity for a change is recognized by the Commission itself. For the time being remedy should be sought in joint meetings between Commission 40 of IAU and Commission V of URSI. The General Secretary will write the President of Commission 40 on that matter.

12. General Assemblies

a) Report by the General Secretary on the state of preparations for the XVth General Assembly

The General Secretary touched on the main problems connected with the organization of the XV-th General Assembly such as: attendance, accommodation, finances, and so on. He referred to the Draft Preliminary Programme received shortly before the meeting of the Executive Committee. This Draft will be copied and mailed to members of the Executive Committee. It was stressed that special attention should be paid to projection of slides. The General Secretary will take care of this matter one week before the General Assembly convenes. The General Secretary was invited to try to obtain from UNESCO a larger subvention for the organization of the XVth General Assembly in order to secure the largest possible attendance, and also taking into account the Copernicus celebration in Poland.

b) Flights to Sydney

The Executive Secretary reported that he had been in contact with representatives from Qantas, the official carriers for the XV General Assembly, and Wagons-Lits/Cook, the official travel agency. The fares as published in Information Bulletin 28

are obsolete. New fares for normal and combined (with excursions etc.) trips are under preparation. It has become clear that neither Qantas, nor Wagons-Lits/Cook can organize charter flights as they are not prepared to undertake the financial risk involved.

It was emphasized in the discussion that everything must be done to have the largest possible attendance. Australia, being a wealthy country, should be asked either for higher grants to young astronomers or for a larger number of such grants.

The fares from Latin America will amount to about 1.600 \$ and the Executive Committee was asked for financial support to young people.

c) The extraordinary General Assembly

In his report the Assistant General Secretary referred to the report of the General Secretary on this subject, as sent to the members of the Executive Committee.

It was estimated that about 600 IAU Members and 200 other persons would attend the meeting. No Commission Meetings will be held in connection with the extraordinary General Assembly. The proceedings of the meeting will be published either as a separate volume with the Invited Discourses and an introduction (about 100 pages), or in the Highlights of Astronomy (Invited Discourses, Dr Gingerich's lecture), and Transactions XV B (speeches and addresses). It would be desirable to have a good portrait of Copernicus in the book. It was agreed that the programme of four Symposia to be held in connection with the extraordinary General Assembly should be published in one volume.

d) The XVith General Assembly - French Invitation

The General Secretary read the invitation by the French National Committee of Astronomy to hold the XVith General Assembly of the IAU in Grenoble, France, in 1976. This official invitation was appreciated by the Executive Committee and will be submitted to the General Assembly in Sydney.

e) Future General Assemblies - appeal for invitations

The General Secretary was invited to investigate whether the standing invitation to hold one of the future General Assemblies in Belgium still holds.

The General Secretary presented a list of countries in which no General Assembly took place in the last decades. The countries were as follows: Canada, Japan, Belgium, The Netherlands, Spain, Sweden, U.A.R.(Egypt), Yugoslavia. It was resolved that the General Secretary should contact Canada, Belgium and Austria, in order to find out whether they would be willing to organize one of the future General Assemblies of the IAU.

13. Finances

a)-c) Report of the General Secretary on the financial situation of the IAU

The word was passed to the Executive Secretary who presented to the Executive Committee a survey of IAU income and expenditure over the period from 1 January to 30 June 1972. This survey shows that the Receipts amounted to 66.419,58 \$ US and the Payments to 31.242,66 \$. He said that the finances of the Union are sound, with savings totalling 65.394,24 \$ US, and 90.158,21 \$ on current accounts. He then proceeded by reading the Draft Budget for the year 1973 and the Comprehensive Budget for 1974-1976, as prepared by the General Secretary.

After a lengthy and detailed discussion the Executive Committee resolved to submit to the General Assembly in Sydney the following estimates for approval:

ESTIMATE OF BUDGET FOR 1973

RECEIPTS in \$ U.S.

1. Contributions from Adhering Countries	67.300
2. Royalties	2.400
3. Interest	3.200
4. UNESCO/ICSU subvention ..	<u>14.000</u>
TOTAL	86.900

PAYMENTS in \$ U.S.

1. Administrative Office	27.000
2. ICSU subscription	1.625
3. Commission expenses	300
4. Specific Projects	14.000
5. General Assembly	45.000
6. IAU Publications	3.000
7. Free copies to developing countries	3.000
8. Executive Committee meetings ...	0
9. Officers meetings	3.000
10. Symposia and Colloquia	20.000
11. Inter-Union Commissions	4.000
12. Executive Committee Projects ...	800
13. Representation	500
14. Bank charges and losses	300
15. Summer Schools.....	<u>6.000</u>
TOTAL	128.525
Imbalance	41.625
Reserve	41.895
Still available in budget	270

RESERVE:

Savings over 1970/1971	\$ 17.895
Savings 1972 (expected)	14.000
Reserve in Budget	<u>10.000</u>
TOTAL RESERVE	\$ 41.895

ESTIMATE OF COMPREHENSIVE BUDGET
FOR 1974-1976

RECEIPTS in \$ U.S.

1. Contributions from Adhering Countries	201.100
2. Royalties	8.600
3. Interest on savings accounts	8.900
4. UNESCO subvention through ICSU	<u>42.000</u>
TOTAL	260.600

PAYMENTS in \$ U.S.

1. Administrative Office	113.000
2. Subscription to ICSU	5.100
3. Commission expenses	1.000
4. Specific Projects of Commissions	37.000
5. General Assembly	30.000
6. IAU Publications	8.000
7. Copies to developing countries..	8.600
8. Executive Committee meetings ...	14.000
9. Officers meetings	8.000
10. Symposia and Colloquia	36.000
11. Inter-Union Commissions	10.000
12. Projects authorized by the Executive Committee	1.500
13. Representation at meetings of international bodies	1.500
14. Bank charges and losses	900
15. Summer Schools	15.000
16. IAU Supported Regional Meetings	5.000
17. Refund to reserves	<u>10.000</u>
TOTAL	304.600

Total Payments\$ 304.600 U.S.

Total Receipts 260.600

Excess of Payments

over Receipts\$ 44.000 U.S.

SPECIFIC PROJECTS OF COMMISSIONS

Comm. 4 Ephemerides	800
Comm. 6 IAU Telegram Bureau	1.800
Comm. 16 Documentation (Meudon)	1.700
Comm. 17 Special Working Group	1.700
Comm. 20 Minor Planets	2.000
Comm. 27 Catalogue of Variable Stars	3.000
Comm. 38 Exchange of Astronomers	24.500
I.f.Bull. Southern Hemisphere	<u>1.500</u>

Total ... 37.000

From the Comprehensive Budget for 1974-1976 it is evident that the unit of contribution, as paid by Adhering Organizations today, would not be sufficient to cover expenses which will be considerably higher due to inflation and expansion of the IAU activities. The excess of payments over receipts amounts to 22% of the present contributions. Thus it will be necessary to increase the unit of contribution to be paid from 1974 to 1976 by 22 %.

The General Secretary was authorized to inform Adhering Organizations of this envisaged increase and to ask for their comments to be taken into consideration when preparing the proposal for the General Assembly.

d) IAU grants towards participation of young astronomers in the XVth General Assembly

The General Secretary proposed to have 14 IAU grants each of \$ 250,-- distributed to young astronomers wishing to attend the General Assembly. This proposal was approved, although it was felt that the amount is rather low, and will only have a triggering effect. Recipients will have to live up to certain criteria, one of which is the age of 35 years. The IAU grants will be allocated after the Australian grants will have been awarded.

e) Australian grants to young astronomers

The General Secretary informed the meeting that the Australian Academy of Sciences had put aside a sum permitting to allocate 36 grants of 250,- \$ US each to young astronomers coming to Sydney. The conditions of allocating these grants are the same as with the IAU grants. The Chairman of the Local Organizing Committee will send a list of grants awarded to the General Secretary. In the discussion it was emphasized that Australia is certainly in a position to award higher grants and in a larger number. The General Secretary was asked to take this matter up with Prof. P. Wild.

14. Publications

a) The Assistant General Secretary reported that Symposium volumes 41 through 46 and 48 had already appeared. As regards Symposium vol. 47, he asked the Secretariat to inquire with Reidel about the state of printing. Symposium volume 49 is expected to be ready in 5 months. The delay of Symposium 50 is due to the illness of Landi-Dessy and to Cistero's insufficient experience. Now that Westerlund had agreed to supervise (with Fehrenbach) the edition it was hoped that the volume would be out soon. As to Symposium vol. 51, Dr Sahade took upon himself to accelerate the assembly and edition of materil. Nothing was to report on Symposia 52 through 54, the respecitve meetings having been held recently or still to be held. The manuscript of Symposium 55 had already been sent to publishers.

It was agreed that manuscripts should be sent directly to the publisher who would also do the bulk of editing. The Assistant General Secretary would only take care of enforcing the IAU rules and of matters like abstracts, preface, etc. This may cost slightly more but will save time. The Assistant General Secretary has the support of the Executive Committee to take, where necessary, strong steps and decisions in order to have the rules in the Style Book observed and to obtain publications conform with the high standards of the IAU.

b) Reports on Astronomy 1973

The General Secretary had written to the Presidents of Commissions informing them that the number of pages assigned to each Commission would be determined from the formula $(M \times P \times R)^{1/3}$ where M is the number of Commission members, P that of its publications, and R the length of its report in 1970. The total number of pages is 800. No report need be shorter than 10 pages. Moreover, the deadline for sending the manuscripts had been set to 10 December 1972 with regard to the shipping distance to Australia.

III. SCIENTIFIC ACTIVITY

15. Scientific Content of XV General Assembly

a) - b) The General Secretary introduced the subject of Invited Discourses and Joint Discussions to be held at the XVth General Assembly in Sydney. A lengthy and very detailed discussion lead to the following decision:

a) Invited Discourses

- | | |
|------------------------------|--|
| Solar Bursts | - speaker P. Wild |
| Interstellar Molecules | - speaker C.H. Townes |
| Early Stages of the Universe | - speaker A. Trautman
(alternate D.W. Sciama) |

P. Wild and C.H. Townes had already accepted, A. Trautman will be invited by the General Secretary.

b) Joint Discussions

The General Secretary had sent to Presidents of Commissions a letter informing them of the deliberations as regards this subject at the previous meeting of the Executive Committee. The replies of Presidents of Commissions were evaluated and it was resolved to hold the following Joint Discussions:

Precession, Planetary Ephemerides and Time Scale
Stellar Infrared Spectroscopy
The Kinematics and Ages of Stars near the Sun
The Solar Wind and its interaction with the Inter-
stellar Medium
Very Short Time-Scale Phenomena
The Outer Layers of Novae and Supernovae

The General Secretary will notify the Presidents of Commissions of the topics chosen for Joint Discussions asking them which Commissions will be willing to participate in one or the other of the 6 Joint Discussions, and which of them will be responsible for the organization.

c) Commission Meetings

The General Secretary reported of the suggestions he had received from Presidents of Commissions regarding Joint Commission Meetings. The topics under consideration are as follows:

The Gum Nebula
Star Formation
Quasars, Radio Galaxies and Explosive Phenomena in
Galactic Nuclei
Line Identifications in Stellar Spectra
Shell Stars
Interstellar Radio Frequency Lines
Infrared Sources and Cocoon Stars
Objectives for the Next Decade of Studies of Solar
and Stellar Atmospheres and their Environment
Recent Developments in Solar Activity
Variable X-ray Sources
Lunar Ranging
Reporting Session on Mariner 9 Results

In the discussion it was stressed that Commission meetings and Joint meetings should be well prepared in advance with a definite programme submitted to the General Secretary. The meetings on the first two days of the General Assembly would be devoted to the administration, the remaining time to science. Only major developments should be on the agenda with invited speakers to whom a time of 25 to 40 minutes could be allocated. Attention shall also be paid to projects requiring international cooperation, and to discussion. Only invited papers will be accepted.

The General Secretary was asked to prepare a draft of Guide-lines for conducting Commission meetings (appendix I) and to inform the Presidents of the decisions of the Executive Committee.

Copy of the General Secretary's letter to Presidents of Commissions is to be sent to the Members of the Executive Committee for information, and its essential part will be published in the Information Bulletin.

16. Scientific Content of the extraordinary General Assembly

After a discussion of the topics and speakers for the Invited Discourses in Poland, with due regard to those in Sydney, the Executive Committee resolved to hold the following Invited Discourses during the commemorative General Assembly in Poland:

Physics of the Interstellar Medium - speaker: Field
alternate: Osterbrock

Infrared Astronomy - speaker: Neugebauer
alternate: Low

Galactic Nuclei - speaker: Ambartsumian
alternate: Piotrowski - Evolution of Double Stars

The General Secretary will send invitations to the speakers mentioned in the first place.

17. IAU Symposia and Colloquia

The Assistant General Secretary drew the attention of the Executive Committee to the resolution adopted at the previous meeting by which the number and titles of Symposia and Colloquia had been determined. The only change to be approved is in Symposium No. 60 on Galactic Radio Astronomy which will be held in Maroochydore, Queensland, instead of in Parkes. Moreover the following Colloquia were approved:

- No. 22, Asteroids, Comets, Meteorite Matter, Nice - France, 4-6 April 1972 (earlier approved by correspondence)
- No. 23, Planets, Stars and Nebulae Studied with Photopolarimetry, Tucson - Arizona, U.S.A., 16-17 November 1972
- No. 24, Lunar Dynamics and Observational Coordinate System (COSPAR meeting sponsored by the IAU), Houston - Texas, U.S.A., 15-17 January 1973

The Executive Committee was unanimous in that Dr Alley would be a valuable member of the Scientific Committee of Colloquium No. 24, however in order not to interfere with the already

advanced stage of the organization of this meeting, the Assistant General Secretary will write to Dr Mulholland that the Executive Committee agrees with his arrangements. This settles the misunderstanding arisen between Dr Dollfus, President of Commission 17, and Dr Mulholland, Chairman of the Organizing Committee for Colloquium 24, as regards the desirability of having Dr Alley on the Scientific Committee of the Colloquium.

The following topics were discussed for future Symposia and Colloquia:

- Variable Stars in Stellar Systems, 1974, Budapest
- Satellite Dynamics, COSPAR Symposium cosponsored by IAU, 1974
- Solar Extreme UV, X, and Gamma-radiation, COSPAR Symposium cosponsored by IAU, Argentine, 1974
- Solar Activity, Czechoslovakia, 1975
- Chemical Evolution of the Galaxy, Italy - most likely Rome, 1975

It was decided to add the names of Rosino and Chugainov to the Organizing Committee of the Colloquium on Variable Stars. The final discussion of all the above proposals was deferred to the first meeting of the next Executive Committee.

It was re-emphasized that the IAU does not cosponsor scientific meetings organized by national bodies. On the other hand if a national organization financially supports an IAU meeting this fact may be mentioned in the announcement of the meeting.

Finally it was decided that the number of Symposia to be held in the future should be reduced, that of Colloquia increased, and that the IAU grants towards such meetings should be \$ 2000 and 800 respectively.

18. Other Scientific Meetings

The Assistant General Secretary reported on the forthcoming IAU supported First Regional Astronomical Meeting in Athens. Greece contributed towards its organization \$ 40,000. The IAU grant of \$ 1,200 had been spent on the preparatory meeting of the Scientific Committee. The Greek Academy of Sciences set aside 180 grants each of \$ 50 for participation. The attendance is expected to range between 380-390 participants. There will be 24 invited lectures, with 70 - 80 contributed papers and 4 discussions on European astronomical activity. The proceedings of the meeting will be published.

It was noted with thanks that the USSR proposed to hold a regional astronomical meeting in Tbilisi in 1975 for about 200 participants from other countries than USSR, which number may be increased. Possibilities for other such meetings exist in Italy, 1974, F.R.G., 1974; a Pan-American meeting comes

into consideration in Mexico. In Latin America, such meetings should preferably be held in countries where the astronomical level requires intense upgrading.

It was found that the financial interests of the IAU are not threatened by the organization of regional meetings. The Executive Committee was unanimous in the opinion that regional meetings are particularly useful to young astronomers.

19. Summer Schools

The General Secretary read a letter by Prof. E. A. Müller, President of Commission 46, to Dr J. Kleczek, Secretary of Summer Schools, in which two proposals for Summer Schools are mentioned for 1973, one for Tenerife, the other for Indonesia. In the discussion of Summer Schools in general and of the two proposals in particular, it was stressed that Summer Schools should be carefully planned, their programme well defined and that reports on them should also be sent to the Executive Committee. It might be useful to consider replacing full-scale Summer Schools by "mini" schools with a smaller number of students and correspondingly smaller number of teachers (e.g. 5 students, 1 teacher, for 1 month). Commission 46 should work out guidelines for the organization of Summer Schools in which it would be stressed that the curriculum is to have a specific aim, such as better utilization of local facilities and equipments. The IAU might also sponsor Summer Schools organized by other bodies, provided their Organizing Committee is international and they are open for international attendance.

In conclusion, it was agreed to give preference, in 1973, to a Summer School in Indonesia.

IV. RELATIONS WITH OTHER ORGANIZATIONS

20. ICSU and IAB

The General Secretary gave a review on the developments in ICSU over the past year. This organization decided that activities relating to the social implications of science are beyond its terms of reference.

The Secretariat participated with its comments in the preparation of a new version of the Statutes and Rules of Procedure of ICSU. The General Secretary proposed that the General Committee of ICSU, newly to be formed, should also have the right to nominate to the General Assembly of ICSU new members, to prepare the budget and to suggest new contributions. This proposal was not respected in the latest draft of the new ICSU Statutes. The new Statutes will be voted in at the next meeting of the General Assembly of ICSU to be held in Helsinki, in September 1972. The Union will be represented by the General Secretary who was authorized by the Executive Committee to safeguard the interests of IAU.

The General Secretary then read the report by J.B. Sykes, President of Commission 5 on Documentation, on the full-board meeting of the ICSU Abstracting Board held at Ustaoset, Norway, in June 1972. It was noted that the dues of \$ 100,-- per year paid by the Union would have to be raised by 50% from 1975 on to counteract inflation.

The report was approved by the Executive Committee.

21. COSPAR

The President congratulated the General Secretary on having been elected President of COSPAR. This personal union will be beneficial for the cooperation between the IAU and COSPAR.

The General Secretary then compared the work in COSPAR with that in the IAU and showed that there are many things which the two organizations have in common. On the other hand, there are also differences, and one organization will have the chance of learning from the other. It will be good to have strong relations. The General Secretary read the relevant parts from the outline of the scientific programme of COSPAR for 1973. It was noted that there are many fields in which the activity of COSPAR and IAU overlap, such as in the case of Working Group 3 - Solar Radiation, Working Group 7 - Planetary System. More coordination will be useful.

22. IUCM

The General Secretary informed the meeting of Dr Dollfus' report on the activity of the Inter-Union Commission for Studies of the Moon, as regards lunar nomenclature, lunar coordinate system and conferences. It was noted that Dr Dollfus is the Chairman of the Commission, Prof. E. Anders his alternate and Dr J.E. Guest the Secretary of the Commission, so that the IAU has three representatives in it. URSI, IUGG, IUGS and COSPAR are each represented by one member.

In this connection, the General Secretary read Dr Menzel's Memorandum on Lunar Nomenclature. It was resolved that the IAU should help Dr Menzel to prepare guide-lines for assigning names to lunar features. It also was proposed to establish a single Working Group for celestial nomenclature.

23. IUCSTP

The General Secretary outlined in brief the history of the Inter-Union Commission on Solar-Terrestrial Physics. At the present stage, it is felt that this body should change into a Special ICSU Commission. URSI and other Unions proposed to terminate the Commission in 1978. Finally it was agreed by correspondence that: the Unions would review the situation of IUCSTP in 1976 and might recommend an extension of its life over 1978. The Executive Committee found this compromise reasonable.

Further the meeting nominated IAU representatives for the following IUCSTP activities:

de Feiter, Nagasawa and Michard - for IMS (International Magnetospheric Study)

Mme Pick, de Jager - for Future Programmes

Wilcox, Rao - for Interplanetary Physics

H. Tanaka - for MONSEE (Monitoring the Sun-Earth Environment)

24. FAGS

The General Secretary reported that ICSU had reduced its contribution to the Federation of Astronomical and Geophysical Services from \$ 55,000 to \$ 35,000. This resulted in a reduction by 20 to 40 % of the grants paid to the individual services, and in the necessity to assign to them a small subsidy from the budgets of the parent Unions. The IAU had to contribute \$ 1,000. With the exception of the Quarterly Bulletin, which depends entirely on money from ICSU, the services accepted the cut as reasonable taking into account all circumstances.

It was resolved to accept Dr Guinot's resignation from his post of President of the FAGS, and to nominate Dr Contopoulos as IAU representative in it.

25. IUCAF

The Executive Committee nominated, on the proposal of the General Secretary, Professor F.G. Smith and Dr D.S. Heeschen as IAU representatives into the Inter-Union Commission on Frequency allocations.

26. URSI. - IUGG

The discussion in and between the International Union of Radio Science and International Union of Geodesy and Geophysics regarding structural changes continues. If the new structure of IAGA (International Association of Geomagnetism and Aeronomy), as outlined by the General Secretary, is accepted, this will result in more overlaps with the IAU Commissions, needing more cooperation and closer ties.

27. General Relations to other Unions

It was felt that a diversification is taking place among the Unions as regards their studies subjects. This danger is particularly acute between IAU Commission 40, on Radio Astronomy, and Commission V of URSI. Attempts had been made to restrict the terms of reference of the latter to techniques, and to leave science to the IAU. COSPAR's activity in radio-astronomy also overlaps with that of IAU Commission 40.

Efforts should be made to concentrate the scientific aspects of astronomy in the IAU. This would call for a definition of astronomy. ICSU would not be the right place to define the tasks of the individual Unions. Such an attempt might be made at joint officers meetings of the Unions. The IAU Commissions should provide the place for discussion and initiate Inter-Union Commissions. The time for discussions between the IAU and COSPAR is particularly favourable now that the General Secretary has become President of COSPAR. The IAU might establish permanent representation in the Unions concerned.

V. VARIA

a) Copernicus Centre

The Copernicus Centre, to be established in Poland with financial help of the U.S.A., will have the moral support of the IAU. It was agreed that, if so requested, the IAU would nominate its representative on the steering board of the Centre. The General Secretary is to contact Dr Smak for specific proposals.

It was noted that similar centres are also developing in other countries, which should be taken into consideration.

b) Meeting with Science Teachers organized by Commission 46 during the Sydney General Assembly

The Executive Committee approved that the President of IAU Commission 46 organize during the XVth General Assembly in Sydney discussion-sessions with primary, secondary and university science teachers. Prof. Müller and Dr Wood will be informed of this decision. The organization of the sessions will entirely be in the hands of Commission 46 and the LOC. It must not interfere with the arrangements for the General Assembly. It is hoped that the Local Organizing Committee will not collect registration fees from those attending the science teaching sessions.

c) Invitation of members of other organizations and of young astronomers to participate in the XV G.A.

The Executive Committee agreed that the President delegate his privilege of inviting representatives of other organizations to the General Secretary and that of inviting scientists and young astronomers, non-members, to the National Committees of Astronomy.

It was noted that there will be a few presidential invitations extended to eminent scientists, and the General Secretary was asked to write Dr Wood for their names. Academician Kozesnik, President of the Czechoslovak Academy of Sciences, should be invited by the President of the IAU to the extraordinary General Assembly.

d) Extension of Symposium 58 by one day

The Executive Committee resolved, on the proposal of Dr E.M. Burbidge, Chairman of the Organizing Committee, to extend Symposium No. 58, on Formation and Dynamics of Galaxies, to be held in Canberra, Australia, by one day, so that it would take place from 13 to 16 August. Dr Wood will be notified with the request to re-arrange the pre-congress tours in a way to permit participants in the Symposium also to join the tours.

e) Dr Sadler's letter regarding the extraordinary General Assembly

The President read a letter addressed to him in which Dr Sadler, former General Secretary of the IAU, criticizes the compromise reached at the XIVth General Assembly to hold two general assemblies, in 1973, one in Sydney and an extraordinary General Assembly in Poland. In Dr Sadler's view this decision is against the spirit of the Statutes. In the discussion, the members of the Executive Committee were unanimous in their opinion that the compromise reached at Brighton was the most favourable solution.

The General Secretary was asked to write Dr Sadler a letter in this sense and to enclose to it copy of the letter he had written to Dr Sandage in order to persuade him to reconsider his resignation from the IAU, as protest against the bifurcated year 1973.

f) Working Group on Numerical Data.

The General Secretary read an abstract from Dr G.A. Wilkins' interim report on the Working Group on Numerical Data. His report was appreciated by the Executive Committee. It summarized the origin of the Group, its membership, its publication activity, etc., and objectives.

g) Future of the IAU

This discussion was initiated by B.J. Bok's memorandum to the Executive Committee in which he touches on the Commissions structure of the IAU, individual membership, regional meetings, grouping of Commissions interest according to Divisions, world-wide unemployment in astronomy, development of astronomy and astronomy education in underdeveloped nations, publicity of astronomy and adaptation to conditions. This memorandum was accompanied by copy of a letter by Prof. L. Goldberg to the President, but it was regretted that the correspondence resulting from this letter, part of the contents of which appeared incorrect, had been omitted in the enclosure.

It was felt that the number of Commission meetings at General Assemblies would have to be limited. This will be expressed in the letter of the General Secretary to Commission Presidents.

The Executive Committee was unanimous in that individual membership cannot be abolished in the Union.

There prevailed the feeling that the grouping of Commissions into Divisions is practically taken care of by the IAU Joint Discussions which must be considered groupings ad hoc.

Unemployment of astronomers is a regrettable fact due, in some countries, to the non-existence of a numerus clausus. The General Secretary had already published in Information Bulletin a note asking for information of vacant astronomical positions from all those concerned. Commission 46 will be notified of the problem.

Commission 46 will be asked to study the question of development of astronomy; the Union may help by organizing astronomical Summer Schools not necessarily of the customary type. It may be useful to promote astronomical programmes on secondary schools.

The need for astronomical publicity differs by countries. Commission 46 may investigate what methods would be the most efficient in certain regions. Speakers at Invited Discourses should popularize astronomy in their lectures and, on the occasion of Symposia and Colloquia, prominent astronomers should be asked by the Local Organizing Committees to give popular talks.

The contacts with other Unions are close and their development is carefully observed.

It would be interesting to know the prospective numbers of IAU Members in the years to come. Inquiries should be made at National Committees of larger countries for estimates.

A new type of meetings has been introduced in Italy. They only consist of 25 people discussing a specialized theme. They last about 3 weeks. Each morning two seminars are held followed by discussions in the afternoon. Such meetings could be introduced in the IAU.

It would be useful if a sub-committee were elected by the Nominating Committee to scrutinize in detail all applications for the IAU membership. This sub-committee should meet one week in advance of the General Assembly.

The question was raised of introducing individual Members fees which might help to eliminate inactive astronomers from the membership list and would have a beneficial effect on IAU finances. After a lengthy discussion it was agreed that the General Secretary would write a letter to National Committees asking their opinion about this proposal. Such fees, of about \$ 2 per person and year, would be collected by the National Committees and held at the disposal of the IAU. They would be payable in local currency and used, where transfers are impossible, for such purposes as IAU Colloquia and Symposia held in the country in question, paying living expenses of foreign students working in that country, etc.

In conclusion of the discussion of the future of the IAU the General Secretary read B.J. Bok's letter of 25 August in which he expresses his views on the re-organization of the IAU Commissions, on the selected speakers for Invited Discourses and on the IAU budget. It was noted with satisfaction that these views tally with those of the Executive Committee.

VI. NEXT MEETING OF THE EXECUTIVE COMMITTEE

The next meeting of the Executive Committee will be held in Sydney, Australia, on 19 and 20 August 1973.

The new Executive Committee will meet in its first session on 30 August 1973.

Invitations were extended to the Executive Committee to hold one of its future meetings on the Southern Hemisphere, in Buenos Aires, and another one in Frascati, Italy.

VII. CLOSING BY THE PRESIDENT

The President closed the meeting on Friday 1 September 1972 at 13,30 with a word of thanks to the Vice-Presidents, Advisers, General Secretary, Assistant General Secretary and staff.

Utrecht,
September 1972



C. de Jager
General Secretary