

INTERNATIONAL ASTRONOMICAL UNION  
UNION ASTRONOMIQUE INTERNATIONALE

Forty-third Meeting of the Executive Committee,

Observatoire de Genève, Sauverny, Switzerland,

Monday, 29 August - Friday, 2 September 1977

P R O C E E D I N G S

The 43rd meeting of the Executive Committee of the International Astronomical Union was held in the Observatoire de Genève, Sauverny, Switzerland, from 29 August to 2 September 1977, with daily sessions from 9.30 to 12.30 and 14.00 to 17.30. On Thursday, 1 September, the premises of ESO in Geneva were visited during the afternoon.

*Present were:*

Prof. A. Blaauw,	President
Mr J. G. Bolton,	Vice-President
Prof. Ch. Fehrenbach,	Vice-President
Dr D. S. Heeschen,	Vice-President
Prof. W. Iwanowska,	Vice-President
Academician E. K. Kharadze,	Vice-President
Prof. S. van den Bergh,	Vice-President
Prof. L. Goldberg,	former President
Prof. G. Contopoulos,	former General Secretary
Prof. Edith A. Müller,	General Secretary
Prof. P. A. Wayman,	Assistant General Secretary
Dr A. Jappel,	Executive Secretary
Mrs J. Dankova,	Administrative Secretary

*Introductory Note:*

The 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 the meeting have not been included in the present report: they will be kept in the files of the Union for further reference.

A G E N D A

- I. Opening by the President
- II. Internal Matters of Administrative Nature
  1. Report of the 41st and 42nd meetings of the Executive Committee
  2. Approval of the Agenda
  3. Report of the President on progress in the SNC
  4. Report of the General Secretary on the Administrative Office, Archives and the future Headquarters of the IAU
  5. Questions regarding Statutes  
Discussions of the jurisdiction of the Finance Committee
  6. Report on the activity of the Working Group for rules governing the admission of new IAU Members
  7. Commissions
    - (a)
      - i) Proposals of the Officers to give the Working Group for Planetary System Nomenclature the status of an IAU Commission
      - ii) Resolution on nomenclature
    - (b)
      - i) Commission 10: Solar Maximum Year
      - ii) Commission 16/17: Merger
      - iii) Commission 20: Termination of Minor Planet Center at the Cincinnati Observatory and appointment of Institute to continue its operation
      - iv) Commission 38: Discussion of Rules for operating the project Exchange of Astronomers
      - v) Commission 42: Circular
      - vi) Commission 46: Discussion of Rules for operating the project Young Astronomers' Schools
      - vii) Commission 50: Request of IAU for allocation by ICSU of a \$5,000.- grant towards the protection of existing and potential observatory sites.  
- Report and recommendations.

c) Co-option of new Commission members and consultants

8. General Assemblies

(a) State of preparation of the XVIIth General Assembly

(b) The XVIIIth General Assembly

(c) Remarks on General Assemblies and their organization

9. Finances

Report of General Secretary on the present financial situation of the IAU

10. Publications

(a) Report of the General Secretary on Keenan's and Delplace's Atlases

(b) Report of the General Secretary on agreements reached with Reidel's re discounts to IAU members

(c) Report of the General Secretary on Transactions and Highlights, books relative to the Grenoble General Assembly

(d) Report of the Assistant General Secretary on IAU Symposium volumes and publications of Colloquia and Regional Meeting

(e) Distribution of IAU Publications to members of the Executive Committee and, at reduced prices, to institutions of developing countries. (What is a developing country ?).

III. Scientific Activity

11. Scientific content of the XVIIth General Assembly

(a) Invited Discourses

(b) Joint Discussions

(c) Commission meetings

12. IAU Symposia and Colloquia

(a) Report by the Assistant General Secretary

(b) Draft Rules for Scientific Meetings

13. Regional Astronomical Meetings under the auspices of the IAU

Report by the Assistant General Secretary

14. Young Astronomers' Schools

Report by the Assistant General Secretary

15. Otherscientific meetings

Report by the Assistant General Secretary

#### IV. Relations with other Organizations

16. Report on the meetings of ICSU General Committee and General Assembly (Washington, October 1976), by the General Secretary

17. IAU applications for UNESCO contracts

18. COSPAR

(a) Report of the XXth COSPAR Meeting in Tel Aviv, June 1977

(b) ISSP Steering Committee; Panel on Potential Harmful Activities in Space

19. IAU representation in other International Organizations

20. FAGS        BIH  
SBARMO      and others  
SCOSTEP

21. Grant of \$500.- towards the publication of the General History of Astronomy

#### V. Other Business

22. People's Republic of China

23. New Presentation of Information Bulletin

24. Future of IAU

25. Any other matter

26. Next meeting of the Executive Committee

#### VI. Closing by the President

## I. *Opening by the President*

The President opened the meeting on Monday, 29 August at 9.30, welcomed the members of the Executive Committee, expressed his satisfaction that all were present, and outlined the general arrangements of the meeting.

## II. *Internal Matters of Administrative Nature*

1. The Reports of the 41st and 42nd Meetings of the Executive Committee, as circulated to the members and advisers, were approved.
2. On the proposal of the President, the Agenda was approved, as on the preceding pages.
3. The President informed the meeting that he had sent out to the members of the Special Nominating Committee his first letter with suggestions and guidelines for the operation of the Committee. He continued by suggesting that a rule might be prepared providing that members of the SNC are not eligible into the Executive Committee. Moreover, procedural rules for the SNC will have to be discussed by the Executive Committee. Under the present rules, a member of the SNC proposed for a function in the Executive Committee might be advised to resign so that he might be replaced by another person in the SNC.

The procedure of the last SNC was simply to stop correspondence with the member of the SNC proposed for a function in the Executive Committee until a final decision was taken by the other members of the SNC.

4. The General Secretary said that the Administrative Office is located in a large room in the Astronomical Institute of the Lausanne University and that it has all facilities for working smoothly. The expenses of the Office are borne by the Observatoire de Genève jointly with the Société Suisse d'astrophysique et d'astronomie.

The permanent seat of the IAU Secretariat will, from autumn 1979 on, be in the Observatoire de Paris. A formal invitation in this respect was received from Prof. Boulon, Director of the Paris Observatory. Certain details, such as participation in the expenses of the office, preparation of the rooms, etc., will have to be clarified. The General Secretary and the Assistant General Secretary will visit Paris in spring 1978 and negotiate the final arrangements. The recommendation of Prof. Fehrenbach that the rooms should not be left empty for 2 years was noted. The General Secretary suggested to start moving the archives of the Union, which are now split between Uccle, Ondrejov and Lausanne, well in advance of the transfer of the IAU Office.



A careful sorting out will have to be made in order to avoid accumulation of the IAU archives in Paris with unnecessary papers.

5. The rules governing the jurisdiction of the IAU Finance Committee were discussed at length. It was understood that no changes in the Statutes in force should be made at present that, however, consideration should be given to their interpretation. Guidelines to this end will be prepared and consulted with the Chairmen of recent Finance Committees before the next meeting of the Executive Committee. The agreement reached at that meeting will then be submitted to the General Assembly for incorporation in the Statutes and By-laws.

6. The Report of Prof. J. Kovalevsky, Chairman of the IAU Sub-Committee for rules for admission of new Members, was studied. It was found that this report is a valuable document systematically summarizing and analysing the problem. An abstract of this report, prepared in collaboration with Prof. Kovalevsky, will be published in the Information Bulletin. It was agreed to introduce a uniform admission form, and to send it to all National Committees of Astronomy for use when proposing new IAU Members to the Nominating Committee. The questionnaire form should be used by the National Committee and no other documents than this completed form should be sent to the General Secretary for evaluation by the Nominating Committee. The deadline for submission of applications should be fixed which may be two months before the General Assembly. But no last minute application should be accepted.

The Nominating Committee will be advised to be strict as regards last minute applications for membership.

The General Secretary will recommend to the National Committees that when submitting their proposals for changes in the List of IAU Members they should make a real effort to scrutinize the list of existing Members and to drop those for whom it makes no sense to continue as Members in the IAU. Members considered for deletion have to be informed of this intention, according to the Working Rules. The introduction of membership forms and the procedure to follow will be announced in the Information Bulletin. The General Secretary will express to Prof. Kovalevsky and to the members of the Sub-Committee the thanks of the Executive Committee for their work.

7.a As regards the Working Group for Planetary System Nomenclature, it was felt that its present status is satisfactory and need not be changed into that of a Commission. The resolutions and recommendations of the Working Group will have the endorsement of the General Assemblies in the future. The possibility of publishing the name-lists in Icarus will be explored by the General Secretary with the chairman of the WGPSN, P. Millman. The Executive Committee approved the appointment of S. E. Dwornik and A. M. Komkov as consultants to the Working Group.

- 7.b i) Dr Newkirk will be sent a letter welcoming his initiative in launching the project Solar Maximum Year. However, before a qualified statement can be made, the E. C. needs more information from Commission 10 on which institutes and groups will be involved and who is to do what research, and who is to coordinate it.

Moreover, it was felt that a closer collaboration with the Solar Maximum Mission project of COSPAR is indicated and that the Organizing Committee of the Solar Maximum Year Project should be extended to include representatives from countries other than the U.S.A. and U.K. It is expected that the project will have no financial implication for the Union.

- b ii) There are no objections to the merger of Commission 16 and 17, provided the proposals made by the Presidents of these Commissions have the support of their membership. If an agreement of the two Commissions is reached, a specific joint proposal will have to be submitted to the next General Assembly for approval. A joint proposal of the two Commissions should be submitted to the Executive Committee for the 1978 meeting.
- b iii) The Executive Committee was informed of the retirement in June 1978 of Dr Herget as Director of the Minor Planet Center in Cincinnati, and of the necessity to find his successor. The President, Vice-President and members of the Organizing Committee of Commission 20 had been consulted, and their general consensus was that Dr Marsden is the natural person to fill the forthcoming vacancy. The Executive Committee was in favour of moving the Minor Planet Center from Cincinnati to the Smithsonian Observatory and of appointing Dr Marsden its Director provided he can guarantee sufficient financial and personal assistance. The Officers were authorized to approve the shift, if these conditions are met. The Union will continue its contribution of about \$1,000.- per year to the operation of the Center. Dr Herget will be informed and thanks will be expressed to him for his valuable work.
- b iv) The rules for operating the project Exchange of Astronomers (Commission 38) had been distributed to the Executive Committee members for study before the meeting. The discussion at the meeting showed an unanimous approval with the following reservations: it is understood that the work is concentrated in the hands of the President and Vice-President of Commission 38, but the members of its Organizing Committee should be informed of the grants awarded so that they might have the possibility of raising objections. It was felt that the

Commission should consider how to achieve a better selection of candidates. This obviously will require wider advertisement. (Senior astronomers might be asked to inform their junior colleagues.) The rules thus completed will be published in the Information Bulletin. A letter including the recommendations of the Executive Committee, as well as their thanks, will be sent to the President of Commission 38, Prof. MacRae.

- b v) A grant of \$300.-- to Commission 42, Close Binary Stars, to be used for the distribution of its circulars was approved for the present term of office. This allocation will be re-examined at the XVIIth General Assembly.
- b vi) The Executive Committee discussed the draft rules for operating the project Young Astronomers' Schools (Commission 46). It was found that they are not as detailed as expected and that they should only be used as internal guidelines within Commission 46. The rules will have to be reworded in a more finished state with regard to new experience and then published in a later issue of the Information Bulletin.
- b vii) The Executive Committee supports the Report and Recommendations of the IAU Commission 50 on Identification & Protection of Existing & Potential Observing Sites, as prepared by F. Graham Smith, Vice-President of Commission 50. The General Secretary will collect the comments of the members of the E.C. on this report and pass them on to F. Graham Smith. It was noted with satisfaction that ICSU had allocated to Commission 50 a grant of \$5,000.-. This money will be used for collecting information on the topic, preparing a document of proposals, circulating it to IAU Commissions for comments, organizing a meeting of a working group to discuss the final document, and printing and distributing the final document to all parties concerned.

7.c.) The following co-options of new Commission members were approved:

Commission No. 20 "Positions and Motions of Minor Planets, Comets and Satellites",

President: B. G. Marsden

J. L. Elliot (U.S.A.)

H. Hurnik (Poland)

R. R. de Freitas Murao (Brazil)

L. Schmadel (Germany F.R.)

T. C. van Flandern (U.S.A.)

Commission No. 34 "Interstellar Matter and Planetary Nebulae"

President: G. B. Field

J. C. Weisheit (U.S.A.)



Commission No. 46 " Teaching of Astronomy"

President: E. V. Kononovich

D. L. DuPuy (Canada) to replace  
J. L. Climenhaga

Change in the Organizing Committee of Commission 31:

G. A. Wilkins (U.K.) to replace  
C. J. A. Penny (U.K.)

8. a) The General Secretary reported that the preparations for the XVIIth General Assembly to be held in Montreal, Canada, from 14 to 23 August 1979 are well under way. The draft of the Preliminary Announcement was sent by the Local Organizing Committee to the General Secretary for information. The finalized Preliminary Announcement will be distributed to all IAU Members early in 1978. The General Secretary will visit Montreal in November 1977, if possible, or in spring 1978, to inspect the state of preparations on the spot. She also will enquire on the financial possibilities to obtain a certain amount of Canadian grants for young astronomers to participate in the Montreal General Assembly.
- b) So far there is no formal invitation of any country to hold the XVIIIth General Assembly on its territory. The Bulgarian National Committee of Astronomy had only indicated the possibility of such an invitation. However, according to the conversation Prof. Contopoulos had in Grenoble with the Bulgarian representatives, and the statements of Prof. Iwanowska and Acad. Kharadze, Bulgaria is confident that the organization of the XVIIIth G.A. will be entrusted to them. It was decided to contact, first, the Bulgarian National Committee of Astronomy, and in the case of a negative reply to make inquiries in Benelux and Spain.
- c) The remarks by the President, Dr Keenan and Dr Wilkins on how to improve the future General Assemblies were distributed. In the discussion that followed several opinions came to the fore : to reduce the services provided by the local organizers, such as entertainment, to obtain more financial support from the local authorities, to shorten the General Assemblies in favour of Symposia around the General Assemblies, to reduce the number of Symposia around the G.A. in order to improve the scientific content of the latter, etc. It was stressed that the registration fee should not be increased. The members of the Executive Committee were asked to give consideration to this problem and to bring their proposals to the next meeting of the E.C.

It was suggested that special meetings should be held at future General Assemblies that would inform participants of important international astronomical projects.

9. The report of the General Secretary on the finances of the Union showed that the total receipts until 30 June 1977 exceeded total payments by about 97.000 Swiss francs. The individual items of the account for the past half-year were examined and found well within the budget as approved by the XVIth G.A. On the proposal of Prof. Goldberg it was agreed that the Union should be guided by the original budget, as proposed by the Executive Committee in 1976, unless the necessity for deviation is substantiated.

The General Secretary reported that a total of \$40,000.- had been invested in the U.S.A. in 1976, \$20,000.- at the Provident Institution for Savings, Boston, and \$20,000.- at the Washington-Lee Savings and Loan Association, McLean, VA. It was agreed to place another \$20,000.- in a 1-year's savings account in Switzerland. This will meet the requirement of the XVIth General Assembly.

The General Secretary informed the meeting that Japan increased its category of adherence from V to VI. In this connection Mr Bolton suggested that Australia should be approached with an appeal to increase their category of adherence.

- 10.a) The General Secretary read Dr Keenan's letter of thanks for the IAU grant allocated in 1976 towards the publication of the Atlas of Spectra of Stars of Types Later than G0.

A similar grant of \$1,000.- towards the publication of Delplace's Photographic Atlas of Be Stars, supported by Presidents of Commissions 29 and 45, was approved.

- b) As regards the discount by D. Reidel to IAU Members on books other than IAU publications, the General Secretary referred to the agreement as announced on p. 34 of Information Bulletin No.38.

It was felt that the contract with Reidel as regards prices, publishing methods, sizes of volumes, etc. cannot be changed at present. However, the Assistant General Secretary will examine, before the expiration of the present contract, the possibility of introducing larger page-size for IAU Symposium volumes.

The possibility of establishing an ICSU Publishing House should be kept in mind.

- c) The General Secretary presented to the meeting's inspection advance copies of Transactions XVIB, Highlights of Astronomy 1976 (in 2 volumes) and Symposium No. 74, and said that three volumes of the proceedings of special sessions held during the Grenoble General Assembly were published by Reidel outside the series of IAU publications.

The A.G.S. remarked that this possibility should have wider advertisement.

- d) The Assistant General Secretary reported on IAU Symposium volumes and publication of Colloquia and Regional Meetings as follows:

Symposium volumes 70 through 74 had been published. Latest cost per page of paper-back volumes with 33 1/3% discount for IAU Members is \$0,03.

The time of publication of 6 - 8 months after the Symposium continues to be of great importance.

The Assistant General Secretary was authorized to instruct editors that they should introduce strict deadlines (one month after the meeting) for contributions to Symposium volumes.

Progress on IAU Colloquium volumes 37, 38, 39 will be inquired.

The proceedings of the 3rd European Regional Meeting held in the U.S.S.R., 1975, had been distributed in 600 copies.

- e) The list of required free copies by the E. C. members concerning Highlights, Transactions XVI B, and Symposium vols. 74 through 80 is now complete.

The General Secretary summarized the history of distribution of free copies of IAU publications to institutions in Developing Countries. At present, there exists a list of 14 addresses receiving IAU volumes at 20 % of their retail price. Among them are 3 Indian institutions and Prof. Bappu, as Chairman of the Indian National Committee of Astronomy, now requires that another two Indian institutions be added to the list. In this connection arose the question of what actually is a Developing Country, and it was felt that the notion requires redefinition, as far as this project is concerned. It was recommended that the General Secretary should approach National Committees of Astronomy with the request to study the problem, evaluate their views and then prepare a new list of recipients of IAU publications at reduced prices worthy of this help.

### III. *Scientific Activity*

- a) The following topics and speakers were agreed upon for Invited Discourses at the Montreal General Assembly:

1. Einstein's Contribution to Astrophysics

speaker: S. Chandrasekhar (alternates: J. C. Wheeler, K. S. Thorne, R. Penrose)

2. Molecular Physics in Relation to Astronomy

speaker: G. Herzberg

3. Stellar Evolution and Close Binaries or Late Stages of Stellar Evolution, or a related topic

speaker: B. Paczynski

The letter of invitation to Chandrasekhar will be sent by the President, the letters to Herzberg and Paczynski by the General Secretary.

- b) The General Secretary presented a list showing the proposals by IAU Commissions of topics for Joint Discussions.

- (i) The following topics proposed by Commissions or individuals were accepted:

Comm.16: "Exploration of the Solar System" (with Comm.17) which includes (A) The Moon, Mercury, and Mars; (B) Venus (USSR 1978/9 Mission); (C) Venus (USA 1978 Mission); (D) Jupiter (Voyager Mission, 1st encounter March 1979, 2nd encounter July 1979).

Comm.29: "Results from the International Ultraviolet Explorer" (if launched successfully). The I U E is to be launched in early 1978.  
Comm. 34 and 44 also proposed a topic related to I U E data and proposed cooperation with Commissions 12, 35, and 36 in addition to the three already mentioned Commissions.

Comm.36: "Physics of the Chromosphere- Corona - Wind Complex in Stellar Atmospheres and Implications for Mass-Loss". Similar topics related to solar and stellar winds and mass loss were proposed by Commissions 12, 29, 44, and by H. Lamers. Cosponsorship of Commissions 34, 35 and 40 is proposed. D. Mihalas' proposal contained a very provisional list of topics to be included in the programme.

The Executive Committee suggested that the proposal for a Joint Discussion on the topic might perhaps be extended to a Symposium for 1979 or 1980. D. Mihalas will be consulted.

Comm.40: "Extragalactic High-Energy Astrophysics." The same topic was also proposed by Comm. 44. Cosponsorship of Commissions 28, 47, and 48 is expected. The programme is to include new results from the x-ray satellites HEAD-A and B (to be launched in the summers of 1977 and 1978 respectively) and from the optical and radio follow-up observations.

-- A. Cox: "Stellar Instabilities."

Endorsed by Commissions 12, 27 and 42. Commission 27 proposed a much more restricted topic on "Pulsating Variables." Co-sponsorship is also expected from Commissions 35 and 48.

The programme is to include (A) Sun, core flashes, shell flashes; (B) Population I and II Cepheids, RR Lyrae variables, red variables, solar pulsations, near main sequence pulsations, white dwarf pulsations; (C) Accretion disc or shell instabilities, novae and supernovae.

(ii) The following topics were retained for further consideration when more details are available:

Comm.16: "Observational Constraints on Theories of Solar System Origin and Evolution" (with Commissions 15, 17 and 34). The Executive Committee wondered whether this topic was timely.

Comm.28: "Properties of Galaxies and their Nuclei" (with Commissions 33, 34, 40 and 48). A similar topic was proposed by Comm.33.

Comm.29:(1) "Pre-main Sequence Phases of Stellar Evolution" (with Commissions 27, 34, 35, 36 and 37).

(2) "Symbiotic Stars and Related Objects" (with Commissions 25, 27, 35, 36, and 40)..

(3) "Stellar Rotation and Related Problems" (with Commissions 35, and 36).

Comm.33:(1) "The Nuclei of Galaxies" (with Commissions 28, 34, and 40). A similar topic was proposed by Comm.28

(2) "The Haloes of Galaxies" (with Commissions 28, 34, and 40).

Comm.34: "Very Hot Plasmas in Circumsolar, Interstellar, and Intergalactic Space" (with Commissions 10, 28, 44, and 48).

(iii) The following topics were not accepted for a Joint Discussion on account of their restricted interest. They might be considered for Joint Commission Meetings or simply discussions in a Commission session.

Comm. 10: "Solar Activity and Terrestrial Climate"

Comm. 14: (1) "Solar Maximum Mission", (with Commissions 10, 43, and 44). They are interested in the needs of solar physicists with respect to atomic data, line identifications, equilibrium calculations, etc.

(2) "Molecules in Space" (with Commissions 34, 40, and 44).  
A Symposium on "Interstellar Molecules" will be held in Ottawa before the General Assembly. As a follow-up a review of the Symposium could be given within the Commission.

Comm. 24: "Stellar Distances." The Commission President is to be asked which other Commissions might be involved in this topic.

Comm. 26: "Space Research Techniques for Double Stars" (with Comm. 44). Commission 44 proposed the topic of "Binary Stars" in conjunction with Comm. 26.

Comm. 34: (1) "Charge-Transfer and other Collisional Cross-Sections of Importance in Planetary and Interstellar Gas." (with Comm. 14).

(2) "The State of Interstellar Gas within and near the Solar System" (with Comm. 49).

Comm. 44: (1) "Gamma-ray Astrophysics and our Galaxy", (with Commissions 28, 40 and 48). The suggestion was to invite various astrophysicists to this discussion, in particular those interested in UV and IR observations.

(2) "Binary Stars". See Comm. 26.

(3) "Strategies for Search for Life in the Universe," (with Comm. 16, and 40).

The Executive Committee suggested to find out whether other Commissions might also be interested. It was felt that the topic is either rather restricted and hence would be a Joint Commission meeting. On the other hand the topic might attract a large audience in which case the discussion should be held during an evening session.



The Executive Committee noted with interest that there is a general trend for an increased number of Joint Discussions during General Assemblies. The final decision on Joint Discussions will be taken at the next meeting of the Executive Committee. It was proposed to consider the possibility of holding a session on international programmes which might include among others the Solar Maximum Mission and the proposed Solar Maximum Year (if worked out and approved).

12. a) The Assistant General Secretary had distributed a set of documents related to past IAU meetings, current Symposia and Colloquia and proposed Symposia and Colloquia.

The report of the A.G.S. on past meetings was acknowledged.

As to the current and future IAU Symposia and Colloquia, the following was remarked, discussed and/or decided:

*Symposium* No.79 (Tallinn, Sept.1977): a total participation of 180 is expected, out of which 88 from western countries.

*Symposium* No.80 (Washington, Nov. 1977): the Officers had approved 600 pp. for the Symposium volume and Davis Philip had allocated pages to contributors. However, Reidel had stated that in terms of the contract this would require two volumes. D. Philip is to be told: the Executive Committee would prefer a reduction to about 400 pp. in a single volume with perhaps historical and other material removed to a separate volume published as a pamphlet if Reidel has no objections. (Even this represents 10 pages or more per hour of Symposium time). If 600 pages are necessary, two volumes are called for. References might be grouped at the end of the volume and save about 5% S. v.d.Bergh will have a copy of the letter to D.Philip.

The following proposals for Symposia and Colloquia were accepted:

*Symposium* No.81, "Dynamics of the Solar System", (Tokyo, May 1978):

cosponsorship of COSPAR is accepted but to-date no information of cosponsorship by IUTAM is available. The General Secretary will decide about the IUTAM cosponsorship. Duplication with the material of the 1976 Cambridge Colloquium No. 41 is to be avoided. The title must be revised to "Dynamics of the Solar System."

*Symposium* No.82, "Time and the Earth's Rotation",

(Cadiz, May 1978): it was noted that IUGG co-sponsorship would not now be offered. The importance of future radar techniques must form an intrinsic part of the programme, and B. Elsmore (Cambridge, U.K.) and K. Johnson (NRL) are to be approached concerning S.O.C. membership.

*Symposium* No.83, "Mass Loss and Evolution of O-type Stars",

(Vancouver, June 1978): there should be a tenth S.O.C. member appointed whose connection with the work of the Copernicus Satellite Project enables the results of this work to be fully represented.

*Symposium* No.84, "The Large-Scale Characteristics of the Galaxy",

(College Park, June 1978): the Executive Committee approves this Symposium for 1978 provided postponement to 1979 is not possible.

*Symposium* No.85, "Starclusters",

(Victoria, B.C., August 1979): letter to Batten should bring notice of Canadian Local Organizing Committee to altered 1979 arrangements as soon as possible. A. Sharov (Moscow) is to be invited to join the S.O.C.-Freeman's proposal to appoint G. Alcaino was not accepted.

*Symposium* No.86, "Radio Physics of the Sun",

(College Park, August 1979): this proposal is accepted without alteration.

*Symposium* No.87, "Interstellar Molecules",

(Ottawa, August 1979): this proposal is accepted without alteration.

*Symposium* No.88, "Close Binary Stars".

(Toronto, August 1979): this proposal is accepted only on the basis that a staff member of SAO/Harvard Center for Astronomy, either Giacconi or someone nominated by him, be asked to join the SOC to represent the X-ray techniques of observations.

*Colloquium* No.44, "Physics of Solar Prominences",

(Oslo, August 1978): revised proposals of F. Orrall were accepted.

*Colloquium* No.46, "Changing Trends in Variable Star Research",  
(Hamilton, N.Z., Nov.1978): proposal as now  
formulated enable Executive Committee to accept  
this as an IAU Colloquium.

*Colloquium* No.47, "Spectral Classification of the Future",  
(Vatican, July 1978): C. Jaschek and P. C. Keenan  
are to be invited to join the S.O.C.  
The Executive Committee understands that classification  
of IR spectra is included among the topics. The rôle  
of Automatic Data Scanning Methods on Spectral Classi-  
fication ought to be included.

*Colloquium* No.48, "Modern Astrometry" (Vienna, Sept.1978):  
discussion was held on the relation of this proposal  
to the expected proposal from Klock or Tucker (Com-  
mission 8) for a Symposium in Washington in 1979.  
The Executive Committee could not accept both pro-  
posals and would prefer the Vienna meeting to remain a  
Colloquium with more of a forward look to new techniques,  
introducing R. H. Tucker (RGO) and G. Teleki (Belgrade)  
on the S.O.C., and to incorporate other material into  
a Joint Discussion in Montreal which might be combined  
with (or might replace) the proposed Joint Discussion  
on "Stellar Distances."

*Colloquium* No.49, "Formation of Images from Spatial Coherence Functions  
in Astronomy" (Netherlands, July 1978) : it is the opinion  
of the E.C. that J. Davies (Sydney), Chairman of  
Colloquium No. 50, should join the S.O.C. in order to  
ensure maximum mutual benefit between optical and  
radio-methodologies in the closely allied fields of  
these two Colloquia. Change of dates to 9-12 August  
1978 would now be favoured by the Executive Committee.

*Colloquium* No.50, "High Angular Resolution Stellar Interferometry",  
(College Park, 30 August - 1 September 1978):  
T. Cole (Sydney) is to be invited to join the S.O.C.  
in order to represent interests in techniques related  
to radio astronomy technology (laser, etc.) in the  
optical interferometry area.

*Colloquium* No.51, "Convection and Turbulence in Stellar Atmospheres",  
(London, Ontario, 27 - 30 August 1979): it is the  
confirmed opinion of the Executive Committee that  
the proposed Symposium should in fact be a Colloquium  
entitled as above, and that a meeting on Mass-Loss  
be held by Commission 36 at the General Assembly.  
If this is acceptable to the organizers, such a  
Colloquium would be approved as Colloquium No.51.

*Colloquium* No.52, "Protostars and Planets",

(Tucson, 3-7 January 1978): after discussion of the draft "Rules for Scientific Meetings" (Agenda item 12.d) it was decided to accept the proposal of Gehrels, "Protostars and Planets", without alteration, but that in future the IAU E.C. must be informed, through the AGS, at the earliest possible time of any proposed IAU meeting and comprehensive arrangements must not be made before such information is conveyed.

Not accepted were

a) Proposals for:

- Symposium on "Automatic Method of Collection and Reduction of Photometric and Spectroscopic Data", Halifax, August 1979. This proposal does not justify the holding of a Symposium (or a Colloquium) in 1979 but the subject would be adequately dealt with by a Commission, or a Joint Commission Meeting in Montreal, where it could reach a broad audience.
- Symposium on "Solid Particles in the Solar System", Ottawa, August 1979. Recognizing the value and importance of this proposal, the Executive Committee nevertheless considers that it is not timely for 1979 and proposes that it might be held in 1980. This would be a more appropriate interval for the series Honolulu 1967, Heidelberg 1975, Ottawa 1980. COSPAR will be informed of the Executive Committee's opinion in a reply to de Jager by the General Secretary.

b) Non-final proposals for:

- (i) - Colloquium on "Current Problems in Stellar Pulsation Instabilities", Greenbelt, June 1978.
- (ii) - Symposium on "Current Problems in Astrometry", Washington D.C., August 1979.
- (iii) - Symposium or Colloquium on "Heating and Energy-Balance of the Solar Atmosphere", Canada, August 1979.
- (iv) - Symposium or Colloquium on "Solar and Interplanetary Dynamics" Boston, Mass., August 1979.

These non-final proposals were not fully discussed, but the following points emerged:

- (i) - the final proposal could not be accepted even if a firm proposal supported by J. Smak were received;
- (ii) - an astrometry proposal for Washington in August 1979 is unlikely to be accepted (see Colloquium No.48);
- (iii) - the Solar Atmosphere proposal is quite indefinite and probably relates to a proposed Joint Discussion (COSPAR should be so informed by the General Secretary);
- (iv) - if further proposals for 1979 Colloquia and Symposia are received it may still be possible to approve one or two more.

- 12.b) The draft revision of "Rules for Scientific Meetings" was discussed, particularly in respect to relaxation of requirements for Colloquium proposals and it was agreed that comments would be forwarded to the Assistant General Secretary in order that a final draft be prepared with a view of adoption at the next Executive Committee meeting.

In connection with the advertisement notice of IAU Symposia and Colloquia, it was noted that it may be possible to increase information through

- 1) IAU Announcement Card Bureau
- 2) special notification, outside the phase of Information Bulletin, to National Committees of Astronomy that request such information on a regular basis.

13. Two Regional Meetings had been approved at Grenoble:

- (i) Latin-American Meeting in Santiago in January 1978
- (ii) Asian-South Pacific Regional Astronomy Meetings in Wellington in December 1978.

With regard to (i): V. Blanco gave (via telephone) his opinion that the lateness of preparations was a matter of considerable concern but that, by a special "last-minute" effort, the meeting would be reasonably successful.

It was decided that Anguita should be informed by the A.G.S. of the Executive Committee's examination of possible postponement and the original proposal should be accepted on the basis that active steps are now taken to finalize the scientific programme. A strong letter should be sent to embody these opinions and a date for response should be fixed around the end of October. Progress on (ii) was found to be excellent.

The proposal for an astronomy meeting in Alma Ata in 1978 is now withdrawn and it is supposed that it will be possible to hold a meeting there in 1981 which could be an IAU Asian Regional Meeting, coinciding with completion of the new observatory. The Executive Committee welcomes this suggestion and awaits further proposals. The General Secretary is to write to Mustel.

A proposal for the Fourth European Regional Astronomy Meeting in Uppsala was accepted on the basis of co-sponsorship as a Topical Conference of the European Physical Society. It was noted that E. Kharadze is the USSR Academy of Science nominee for the S.O.C. and that IAU support will be Sw.frs.7,500.--.

A letter received from G. Teleki by the AGS concerning a possible Regional Astronomical Meeting in Yugoslavia in 1981 was noted, however, the conditions of participation in the meeting as formulated in Teleki's letter are not acceptable. Teleki is to be informed accordingly by the General Secretary.

The holding of EPS astronomy conferences in Europe and their possible designation as IAU Regional Astronomy Meetings was discussed and their locations in Belgium and W. Germany were noted. A European Regional Meeting early in 1979 would not be acceptable.

14. The proposed Young Astronomers' School in Rio de Janeiro, Brazil, in November 1977 was discussed in respect of postponement (from July 1977), estimated income and expenditure, and list of speaker. An IAU financial contribution of Sw.frs.19,425.-- was approved. Barreto will be informed by the General Secretary.

The possibility of proposals being received for another YAS in 1978 or early 1979 was discussed. Without further information, Dr Kleczek's suggestions for Egypt and Nigeria, with preference for Nigeria, could not be thoroughly differentiated. A successful school in Egypt could be well worthwhile, but an alternative location, such as Algeria might be considered preferable. A YAS in Nigeria could help the IAU member Dr S. E. Okoye to develop some Astronomy at the University of Nigeria in Nsukka.

15. Reports of the 3 Symposia held at Tel Aviv in conjunction with the XXth COSPAR Plenary Meeting, June 1977, were received.

As regards Symposia to be held in conjunction with the XXIst COSPAR Plenary Meeting in Innsbruck, 29 May - 10 June 1978, it was agreed that IAU should co-sponsor:

- COSPAR Symposium on Planetary Surfaces and Atmospheres
- SCOSTEP Symposium on Solar-Terrestrial Physics



- COSPAR Symposium on X-Ray Astronomy
- SBARMO Symposium on the Scientific Use of Balloons and Related Problems
- COSPAR Symposium on 100 Years of Lunar Mapping, Lagonissi, Greece, June (following the Innsbruck Meeting).

L. E. Peterson, a member of M. Golay's Geneva Group, and M. Moutsoulas should respectively be asked to be IAU representatives on the 3 Program Committees.

COSPAR cosponsorship is accepted for IAU Symposium No. 81, "Dynamics of the Solar System" (Tokyo, May 1978). The General Secretary will inform COSPAR.

COSPAR is to be informed that proposals have been made by the Executive Committee that the suggested IAU Symposium on "Solid Particles in the Solar System" (Ottawa 1979) be held in 1980.

The proposed IAU Symposium on "Heating and Energy Balance of the Solar Atmosphere" would appear in fact a Joint Discussion now under consideration for the XVIIth IAU General Assembly in Montreal.

The two-days overlap of the Commission J (Radio Astronomy) of URSI in Helsinki 28 July - 8 August 1978 with the 4th European Regional Meeting was noted. It was felt that the effect of this overlap was minimal in view of the different nature of the meeting, and the Uppsala organizers should not be urged to change the date.

Summary of Expenditure on Scientific Meetins 1977 - 1979  
as approved in August 1977

	Sw. frs.
<i>Symposia :</i>	
76, '77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, (5,150 x 13).....	66,950.--
<i>Colloquia :</i>	
42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52 (2,500 x 11).....	27,500.--
<i>Co-Sponsored Meetings</i>	
Tel-Aviv 3	
Innsbruck 4	
Lagonissi 1 (2,500 x 8).....	<u>20,000.--</u>
Total.....	114,450.-- x)
Budget figure:	117,540.--

x) Note:

Apparently only 1 Colloquium could be added but in fact not all expenditures reached the allocated figure; also it would be possible to go 5% over the budget figure).

*Regional Meetings*

		Sw.frs.
Santiago	}	
Wellington		
Uppsala		
(7,500 x 3).....		22,500.--
		(Budget figure: 30,000.--)

*Meeting Dates*

*IAU SYMPOSIA AND COLLOQUIA*

1978

Colloquium	52	Protostars and Planets	Tucson	3 - 7 January
Symposium	82	Time and the Earth's Rotation	Cadiz	8 -12 May
Symposium	81	Dynamics of the Solar System	Tokyo	16 -19 May
Symposium	83	Mass Loss and Evolution of O-type Stars	Vancouver	5 - 9 June
Symposium	84	The Large-Scale Characteristics of the Galaxy	College-Park	12 -17 June
Colloquium	47	Spectral Classification of the Future	Vatican	July
Colloquium	49	Formation of Images from Spatial Coherence Function in Astronomy	Netherlands	26 -29 July
Colloquium	50	High-Angular Resolution Stellar Interferometry	College-Park	30 Aug.-1 Sept.
Colloquium	48	Modern Astrometry	Vienna	Sept.
Colloquium	46	Changing Trends in Variable Star Research	Hamilton, N.Z.	27Nov.-1Dec.

*Regional Astronomy Meetings*

Latin-American Regional Meeting	Santiago	16 - 21 Jan.
Fourth European Regional Astronomy Meeting	Uppsala	7 - 12 Aug.
Asian-South Pacific Regional Astronomy Meeting	Wellington N.Z.	5 - 8 Dec.

15. *Other Scientific Meetings*

in conjunction with XXI COSPAR Plenary Meeting Innsbruck 29May-10 June

COSPAR/ IAU/ IUGG/ IUTAM/ URSI:

Symposium on Planetary Surfaces and  
Atmospheres (M. B. McElroy, IAU  
representative)

SCOSTEP/ IAU/ IAGA/ IAMAP/ IUPAP/ URSI/  
COSPAR:

Solar-Terrestrial Physics  
(J. M. Wilcox, IAU representative)

COSPAR/ IAU:

Symposium on X-ray Astronomy  
(L.E. Peterson, IAU representative)

SBARMO/ COSPAR/ IAU/ IUPAP:

Scientific Use of Balloons and Related  
Problems (M. Golay, IAU represent.)

COSPAR/ IAU:

100 Years of Lunar Mapping  
(M. Moutsoulas, IAU representative)  
Lagonissi, after 12 June

Meeting Dates

1979

IAU SYMPOSIA AND COLLOQUIA

Symp. 87	Interstellar Molecules	Mont Tremblant Quebec	6-10 August
Symp. 86	Radio Physics of the Sun	College Park, Maryland	7-10 August
Symp. 88	Close Binary Stars	Toronto, Ontario	7-10 August
Coll. 51	Convection and Turbulence in Stellar Atmospheres	London Ontario	27-30 August
Symp. 85	Starclusters	Victoria B.C.	27-31 August
XVIIth	IAU GENERAL ASSEMBLY	Montreal	14-23 August

IV. 16. *Relations with other Organizations*

The General Secretary reported that the 16th General Assembly and the meetings of the General Committee and of the Executive Board of ICSU were held in Washington, D.C., USA, from 9-15 October 1976. The General Assembly and General Committee meetings were attended by her as IAU representative. As for details the General Secretary referred to her report published in Information Bulletin No.37.

The Executive Committee agreed that the ICSU resolutions as included in Annexes 1 and 2 of the ICSU General Secretary's letter dated 2 July 1977 would be submitted to the XVIIth IAU General Assembly in Montreal for ratification. The General Secretary will inform the forthcoming ICSU General Committee meeting in Budapest accordingly.

The General Secretary was authorized to advocate at this meeting the proposal that travel expenses of Union representatives to meetings of Inter-Union Commissions should be borne by these Commissions.

17. The General Secretary said that UNESCO has discontinued to award grants to the Unions and prefers now to subsidize specific projects in the form of contracts. The Union has therefore applied within the UNESCO programme for 1979-1980 and the Medium-term Plan 1979-1984 for three contracts:
- (i) to provide \$300.- per year to Commission 5, Documentation, for revising, in cooperation with the Fédération Internationale de Documentation, Classe 52 "Astronomy" of the UDC;
  - (ii) to provide \$4,000.- per year to IAU Commission 44, Astronomical Observations from outside the Terrestrial Atmosphere, for financing a programme permitting astronomers from countries outside the NASA and ESA jurisdiction (i.e. countries unable to cover the travel expenses of their scientists) to participate in astronomical observations from above the Earth's Atmosphere and in Space Research in general;

- (iii) to provide \$8,000.-- annually to IAU Commission No.46, Teaching of Astronomy, for financing Young Astronomers' Schools.

So far no response has been received from UNESCO.

- 18.a) The XXth COSPAR Plenary Meeting held in Tel-Aviv in June 1977 approved plans for a number of COSPAR Symposia and expressed COSPAR's wish to participate in some Symposia organized by other bodies in 1978 and 1979, the IAU included.

A special COSPAR report deals with the Symposia and Panel Meetings held in Tel-Aviv and presents the adopted resolutions and recommendations. An abstract of the report will be published in the next IAU Information Bulletin. Prof. C. de Jager will resign from his function as President of COSPAR in 1978 when he will be appointed President of ICSU. For his successor several proposals were made but no decision has been taken so far.

- b) COSPAR's proposal to establish a Steering Committee for the ISSP (International Solar System Programme) was approved by the ICSU General Assembly in Washington in October 1976. Since then, and after consultation with various ICSU bodies and other organizations, COSPAR appointed a Steering Committee which consists of 33 members representing different ICSU bodies and coming from various parts of the world. The IAU is strongly represented on the Steering Committee by representatives of a number of IAU Commissions interested in the programme. All members of the CCMP (Coordinating Committee for the Moon and Planets) are also members of the ISSP Steering Committee. The Chairman of ISSP is Sir William Pickering, the Vice-Chairman is Dr S. K. Runcorn; neither of them, however, was present at the first meeting of the Committee in Tel-Aviv, where the concept of ISSP was discussed and its first objectives were decided. One of the main activities of ISSP is to centralize the inflow of data, particularly those obtained by the space missions and to work out a system to ensure that these data be available on a global scale. It was decided that the first step the ISSP should take is to collect and coordinate all existing documents in regard to planetary space research. A Directory of Planetary Data Sources is to be developed. Such a directory seems to be the logical initial effort, because photographs of the surface or cloud tops of the planets exist in various places. A directory of participants is needed after the various workers establish analysis programs and goals based on the data available from data centers and from new planetary missions.

- c) During the 1976 COSPAR meeting in Philadelphia, the Panel on Potentially Environmentally Detrimental Activities in Space was established. The members of the Panel have now been appointed, Prof. Rauer being the Chairman, and during the 1977 COSPAR Meeting in Tel-Aviv the tasks of the Panel have been defined. Its first task is to prepare a Report which is to present and discuss the two main aspects of the problem namely (i) space activities which might produce a deterioration of the natural environment, and (ii) space activities which might hamper scientific research by blurring or reducing the quality of other scientific observations such as for example astronomical observations. The Report is also to contain recommendations for counter-measures to avoid or diminish such possibly harmful effects. The IAU Commissions 44 and 50 are involved in the work of the panel; Commission 44: Dr P. Bruston from R. Bonnet's group for the Far Infrared region, and Commission 50: Dr F. Graham Smith.

Following a remark by Dr D. Heeschen the Executive Committee decided that a radio astronomer concerned with radio frequencies protection should also be involved in the work of this Panel. The President of Commission 40, H. van der Laan, is to be contacted proposing a representative of his Commission in the Panel.

19. A list of IAU representatives in other International Organizations, valid until 1979, was distributed. It was agreed that Dr Bumba, Vice-President of Comm.10, should represent the IAU in IUWDS (International Ursigram and World Day Service) and in MONSEE (Monitoring of Sun-Earth Environment). It was decided to discontinue the IAU representation at Pic-du-Midi after the next General Assembly.
- Following a proposal by Dr Bolton it was agreed to send to members of the Executive Committee upon their specific request, copies of the reports of IAU representatives attending meetings of Inter-Union Commissions or other international organizations. Such reports are regularly published in the Information Bulletin although sometimes with a relatively long delay if a report reaches the General Secretary shortly after the manuscript of the Information Bulletin went to press.
20. FAGS (Federation of Astronomical and Geophysical Services). So far ICSU has contributed about \$50,000.- a year to the operation of FAGS. This contribution is to be discontinued, and FAGS was encouraged to seek financial help elsewhere.



The problem may arise for the interested Unions to finance FAGS. There is as yet no plan of how these contributions should be distributed among the Unions. At the forthcoming ICSU meeting in Budapest the General Secretary will try to persuade ICSU not to discontinue its support to FAGS. Should this attempt fail, the IAU might contemplate its withdrawal from FAGS and consider the possibility of financing the 3 services it is interested in from its own budget. Dr Enslin, now President of FAGS, is preparing a revision of the Statutes of this organism.

BIH (Bureau International de l'Heure). The XVth IAU General Assembly had voted in its resolution No.7 on the terms of reference of BIH. This resolution was accepted by IUGG and URSI, except for its point (e) which reads: "...to perform scientific research as necessary for the improvement of the service." They propose to consider this point (e) a mere recommendation. The Executive Committee agreed with the proposal of IUGG and URSI and decided that this being of minor importance no further action is required.

SBARMO (Scientific Ballooning and Radiations Monitoring Organization). It was noted that SBARMO has withdrawn from FAGS, because it is primarily concerned with observational programmes rather than with data analysis. It is now associated with COSPAR but continues to keep its own identity. Rules for cooperation between COSPAR and SBARMO have been set up.

SCOSTEP (Special Committee on Solar Terrestrial Physics). This committee is to be dissolved in 1980 and the question arises of the future existence of its various international cooperative programmes, such as: IMS (International Magnetosphere Study) and, especially, MAP (Middle Atmosphere Program) which is planned to run until 1985. Suggestions for other organizations to take over the programmes will be discussed by the ICSU Plenary Meeting in 1978. It was decided that IAU should be represented by P. Simon in MAP.

CCMP (Coordinating Committee for the Moon and Planets). Dr Guest has resigned as Secretary, and Dr Runcorn, Chairman of CCMP, proposed Prof. J. Geiss as his successor. Prof. Geiss, contacted by the General Secretary, was reluctant to accept this function as he considered that the activity of CCMP could be included in that of ISSP. The

Presidents of Comm. 16 and 17 will be asked for their opinion whether the continued existence of CCMP is justified.

CODATA (Committee for Data for Science and Technology). The report of the tenth General Assembly, held in July 1976, was received from the IAU representative, Dr. G. A. Wilkins, and published in the Information Bulletin No. 37. The next General Assembly will take place in 1978.

21. It was agreed to contribute \$500.-- towards the publication of the General History of Astronomy, to be published by the International Union of the History and Philosophy of Science (IUHPS). The President suggested that it would be useful to have a report by the President of Commission 41 on this project.

V. 22. *Other Business*

The discussion on the possibility of mainland China re-joining the IAU was preceded by Prof. Fehrenbach's short survey of his visit to the People's Republic of China. The General Secretary reported that the problem had been discussed at length during the 16th ICSU General Assembly in Washington, 1976, which also passed a resolution (9) recommending that "all scientific Unions should adhere to the principle of universality of science and not exclude from membership any community of scientists which effectively represent the scientific activity in a definite territory". It was noted, however, that two Unions, namely IUGS (in 1976) and IUGG (in 1977) had admitted the People's Republic of China among their members and expelled Taiwan. In the respective resolution of IUGG it is stated that Taiwan is only a province of China and can therefore only be represented by the People's Republic of China, not by its own delegation.

The Executive Committee agreed that the IAU, if confronted with the problem of expelling Taiwan from among its ranks, would see no reason to deviate from its policy as stated in Prof. Goldberg's address to the XVith General Assembly. The General Secretary was authorized to express this stand of the IAU to the General Committee of ICSU, if necessary.

23. The new presentation of the IAU Information Bulletin found the approval of the Executive Committee.
24. In connection with the future of the IAU the scientific contents of General Assemblies was considered in more detail. The growing number of Joint Discussions and the ever larger audiences at them are to be accepted as a natural development, due to the rapid progress in astronomy. In this connection it was stressed that rooms large enough for these meetings at the next General Assembly in Montreal should be secured.

25. It was reminded that each Executive Committee member can ask the Secretariat for a copy of the IAU representatives' reports.
26. It was resolved that the 44th meeting of the Executive Committee would be held in Dublin, Ireland, from 16 to 19 August 1978.

VI. *Closing by the President*

The meeting was closed by the President on Friday, 3 September, at 12.30 with a word of thanks to the participants, especially to the General Secretary and Assistant General Secretary for their careful preparation of the programme.

*Edith A. Müller*

Edith A. Müller  
General Secretary

Observatoire de Genève  
September 29, 1977