

INTERNATIONAL ASTRONOMICAL UNION

Twenty-eighth meeting of the Executive Committee
Prague, Czechoslovakia,
Friday 16 September to Tuesday 20 September 1966

PROCEEDINGS

The twenty-eighth meeting of the Executive Committee of the International Astronomical Union convened in Prague, Czechoslovakia, from 16 to 20 September 1966. The meetings were held at the invitation of the Czechoslovak Academy of Sciences at the hotel International. Sessions were held as follows:

Friday 16 September	:	9.00a.m.-12.30p.m.;	2.00p.m.-5.00p.m.
Saturday 17 September	:	9.00a.m.-12.30p.m.;	2.00p.m.-6.00p.m.
Sunday 18 September	:	/	7.30p.m.-9.00p.m.
Monday 19 September	:	9.00a.m.-12.00a.m.;	2.00p.m.-4.00p.m.
Tuesday 20 September	:	/	2.00p.m.-5.00p.m.

On Tuesday 20 September, places of interest from the point of view of the XIIIth General Assembly were inspected from 9.00a.m. to 12.00a.m.

Present were : P. Swings (President); W.N. Christiansen, G. Haro, W. Fricke (Vice-Presidents), L. Perek (Assistant General Secretary), D.H. Sadler (former General Secretary), M. Schwarzschild A.B. Severny (Vice-Presidents), J.-C. Pecker (General Secretary). A. Jappel was present as Assistant Secretary. Apologies were received from Y. Hagihara (Vice-President) and V.A. Ambartsumian (former President).

Introductory note: The report has been prepared in the order of the items as given overleaf in the summary list of the agenda.

The documents related to the agenda and distributed during the meeting are not included in the present Report, but will be kept together with the Report in the archives of the Union. These include: tables showing the category of adherence of member countries, documents regarding the financial situation of the Union, a proposal by the General Secretary for the introduction of a category of Associate Members, a proposal by the General Secretary for the introduction of a new Distribution List of IAU publications, a document prepared by the Assistant General Secretary on the

function and structure of Commissions, a table prepared by the President regarding the proposals of the Special Nominating Committee, a document prepared by the former General Secretary on allocations by FAGS, a proposal by the General Secretary for the introduction of a new policy as to IAU Publications, various letters by IAU Members concerning one or the other item of the agenda.

AGENDA

Internal matters of administrative nature.

Administration

1. Report by the General Secretary, especially on Union finances and on the organization of the Nice and Meudon offices.

General Assemblies

2. Desirability of extending the interval between General Assemblies.

3. Report by the Assistant General Secretary on the material organization of the thirteenth General Assembly in Prague.

4. Future General Assemblies.

5. Discussion of whether Draft Reports are to be distributed prior to or at General Assembly.

Executive Committee

6. Report by the President on the activity of the Special Nominating Committee.

Commissions

7. Creation, within Commission n°17 on the Moon, of a Working Group to co-ordinate Symposia and Data on Lunar problems, and of a Working Group on Lunar nomenclature.

8. Creation within Commission 10, of a Working Group on Standardization of Coronal Measurements.

9. Function and Structure of Commissions.

Associate National Membership and relations with non-member countries .

10. Formulation of a resolution on Associate National Membership.

11. Report by the General Secretary on consultations with astronomers of the Chinese People's Republic, of Algeria, of Iran, of Pakistan.

IAU Publications

12. Report by the General Secretary on the present state of IAU Publications.

13. Report by the General Secretary on the distribution of IAU Publications.

Scientific Activity of the Union

XIIIth General Assembly

14. Invited Discourses

15. Joint Discussions

IAU Symposia and Colloquia

16. Report by the Assistant General Secretary on past and future Symposia.

17. IAU-IUGG Symposium on Continental Drift.

18. Suggestions for new Symposia and Colloquia.

Other Scientific Meetings

19. Proposed Symposium on Communication with Extra-terrestrial Intelligence.

20. Colloquium on Spectroscopy - Bombay .

21. Report by the Assistant General Secretary on Symposia and Colloquia organized by other bodies than IAU.

Special Projects

22. Installation of Coronagraph in Peru.

23. Extension of grant for Information Bulletin for the Southern Hemisphere.

24. Report by the General Secretary on the re-edition of the Catalogue of Star Clusters and Associations.

25. Report by the General Secretary on "Bibliography of Astronomy".

Relations with other organizations.

26. UNESCO contracts
Exchange of Astronomers.

Summer schools in astronomy.

27. International Council of Scientific Unions.
Report by the General Secretary on the ICSU General Assembly in Bombay.

28. Inter-Union Bodies.
Report by the General Secretary on the co-operation of inter-union bodies dealing with solar-terrestrial physics.

COSPAR - Policy of IAU with regard to COSPAR; the Panel of Interplanetary Dust.

29. Representation.

Federation of Astrophysical and Geophysical Services (FAGS).

30. Report by the General Secretary on the new Constitution of BIH and its Directing Board.

Varia and Formal Decisions.

31. Formulation of resolution concerning the Universal Use of the Metric System.

32. Results of consultations with Presidents of Commissions as to steps to be taken in connection with the organization of an international co-operation for a possible reception of signals of extra-terrestrial origin.

33. Study of the proposal by Professor Sklovsky of an International Year of the Observation of a Selected Number of Quasars.

34. Desirability of having Russian papers abstracted in English or French, and vice versa.

35. International Human Rights Year 1968.

36. Twentieth-ninth meeting of the Executive Committee.

Other Questions.

OPENING BY THE PRESIDENT

The President opened the meeting with a word of thanks to the Czechoslovak Academy of Sciences for the generous hospitality to the members of the Executive Committee and for the welcome extended to them. He noted with regret the absence of Professors Ambartsumian and Hagihara, and proposed that greetings be sent to them expressing the good wishes of the Executive Committee.

Before passing to the agenda, the President spoke a few words in homage to the memory of Professor R.M. Petrie, former President of IAU Commission n°30, who died on 8 April 1966. Professor Petrie was Vice-President of IAU from 1958 to 1964.

Internal matters of administrative nature

1. Report of the General Secretary.

The General Secretary opened his report by briefly outlining the agenda to be discussed and emphasizing its main items.

The administrative office worked normally both in Nice and Meudon. The Assistant Secretary, Miss Dorothy A. Bell, left in April the Nice office and was replaced by A. Jappel. The office in Prague of the Assistant General Secretary, L. Perek, dealt with the organization of Symposia and Colloquia, and continued in the preparation of the XIIIth General Assembly. The General Secretary, J.-C. Pecker, visited Birkenhead and London, once, accompanied by Miss Drouin, to discuss problems of IAU Publications with the publishers and printers. V. Rajskey of the Prague Local Organizing Committee came to Nice in June 1966 to discuss problems in connection with the material organization of the XIIIth General Assembly in Prague.

The General Secretary then presented to the Executive Committee a set of documents showing the financial situation of the Union. In spite of the circular letter sent, only three countries had agreed to raise their category of adherence to the Union, so that no substantial additional funds may be expected from this source of income. Moreover, contributions are often paid late in the year, which considerably hampers the operations of the Union. Especially distressing in the low return from sales of IAU publications. The General Secretary proposed to take the following measures to improve the finances of the Union : a) Approach the French Government with the request to contribute the maintenance of the Nice Office; b) Approach UNESCO with the request to increase its contributions to IAU Publications, exchange of astronomers, and Summer Schools. This step should be taken, no matter how improbable it is to bring positive results, the budget of UNESCO being constant, while its expenditure increases; c) Introduce a new policy of IAU Publications and of their sale.

An analysis of the expenditure of Commission n°38 showed a very satisfactory activity in the field of exchange of astronomers. Some doubts, however, were raised as to the advisability of allocating unduly large sum of money to individual astronomers. The President undertook to settle this problem with Professor Minnaert in person.

It was agreed to adopt measures to economize, especially as regards publications, which is the largest item of expenditure.

2. Extension of interval between General Assemblies.

The question was raised in a letter by Professor Sahade, as to whether it would not be reasonable to increase the interval between General Assemblies. The discussion showed that though it is difficult for astronomers from more remote countries to travel in large numbers to the Assemblies, the time gained by extending the interval between them would be negligible in comparison with the disadvantages it would entail. The General Assemblies give young astronomers the opportunity to meet and get acquainted with their more experienced colleagues. Moreover, science develops so rapidly that frequent General Assemblies are imperative if the latest achievements are to become known all over the world before becoming obsolete.

It was agreed not to extend the interval between General Assemblies, but to organize Symposia with the participation of larger numbers of young astronomers and to invite, by personal letters, the national institutions to contribute to their expenses: Presidents, should be warned to make efforts to promote such a policy. It was also agreed to hold some of the future Symposia in developing countries.

3. Report of the Assistant General Secretary on the material organization of the XIIIth General Assembly.

The Assistant General Secretary presented a brief report on the progress made in the preparations for the XIIIth General Assembly to be held in Prague, Czechoslovakia, from 20 to 31 August 1966. He invited the members of the Executive Committee to inspect the building, halls and other sites in Prague where the General Assembly and Associated Activities will take place. The morning of Tuesday 20 September was devoted to this inspection. The members of the Executive Committee expressed their satisfaction with the progress made in the preparations.

4. Future General Assemblies.

The General Secretary reported that invitations had been received to hold the XIVth General Assembly in Argentina and in Great Britain, and the XVth or XVIth General Assembly in Argentina and/or Australia.

It was unanimously agreed to accept the invitation of Great Britain to hold the XIVth General Assembly of the Union (1970) in Sussex, England.

As to the XVth General Assembly it was agreed to recommend to the future Executive Committee to accept the invitation of Australia.

In this connection, the Executive Committee discussed the distressing situation of science and scientists in Argentina, which does not permit the Union to hold one of its General Assemblies in this country. It was agreed that the President should write a letter to the Secretary of Education of Argentina asking for protection of science and scientists.

5. Discussion on the distribution of Draft Reports.

The General Secretary proposed that Draft Reports should, as in the past, be distributed before the General Assembly as foreseen by the existing time table. This proposal was unanimously agreed.

6. Report of the President on the activity of the Special Nominating Committee.

The President read to the Executive Committee two letters summarizing the progress made by the Special Nominating Committee as regards the nomination of the future President, General Secretary and Assistant General Secretary of the Union. He informed that for the functions in question the following names had been suggested:

Professor C. Heckmann as President
Dr L. Perek as General Secretary
Professor W. Stibbs as Assistant General Secretary

and moved that this nomination be approved for submission to the XIIIth General Assembly. The motion was approved unanimously.

Professor Fricke took this opportunity to tender his resignation of the office of Vice-President of the Union in order to be able to support the candidature of Professor Heckmann. He stated, among others, that it would not be an ideal solution to have two representatives of one country in the Executive Committee. The

President, having discussed this proposal with Professor Fricke in private, recommended to the Executive Committee to accept Professor Fricke's resignation as from the date of the XIIIth General Assembly onwards and to suggest to the Special Nominating Committee in his stead Professor Christiansen, whose term of office would otherwise expire on this date after only three years in office. The motion was unanimously approved.

7. Creation, within Commission n°17 on the Moon, of a Working Group to co-ordinate Symposia and Data on Lunar Problems and of a Working Group on Lunar Nomenclature.

The General Secretary emphasized that the creation of such working groups is left to the discretion of each individual Commission and needs no sanctioning by the Executive Committee. It was agreed not to interfere with the decisions of Commission n°17.

8. Creation, within Commission n°10, of a Working Group on Standardization of Coronal Measurements.

It was agreed to leave the creation of the working group in question to the discretion of Commission n° 10. The members of the Executive Committee expressed the desire to obtain additional information on this working group. It is composed as follows :

Chairman :	J. Rösch, Pic-du-Midi, France.
Secretary :	M.N. Gnevyshev, Kislovodsk, USSR.
Members :	S. Nagasava, Norikura, Japan.
	J. Newkirk, Boulder, USA.
	M. Waldmeier, Zürich, Switzerland.

with the following purposes :

The Working Group proposed to organize in 1967 a meeting of active-corona observers and to prepare a report to the Prague General Assembly.

9. Function and Structure of Commissions.

a) President's term of office. The point had been raised at the XXVIIth meeting of the Executive Committee, whether a three-years'term of office for Presidents of Commissions would not be preferable to a six-years'term. During the discussion of this point it was suggested that the Vice-Presidents of the Commissions should as a rule take over the presidency after a three-years'term, and that the Presidents of Commissions should have the authority to decide on the scientific content of the work of their commission during their term.

It was agreed that a reduction of the term of office for Commission Presidents from 6 to 3 years is in principle advisable, except for that of the Presidents of Committees of the Executive Committee.

b) Interstellar Plasma. As regards the problem of creating, within the IAU, a Commission on Interstellar Matter, it was proposed by the General Secretary to change the name of Commission n°43, into the scope of which this problem falls, to the effect that it would imply Interstellar Plasma. It was agreed that the Assistant General Secretary should take up this matter with the President of Commission n° 43 and to see to it that Interplanetary Plasma be included into its scope and name of the commission changed accordingly.

c) Future System of Commissions. The Executive Committee then heard the report of the Assistant General Secretary on the future system and structure of IAU Commissions. His document, based on the previous report prepared by the former General Secretary, distinguishes between the present two-level system of administration (Executive Committee - Commissions) and the indispensable future three-level administration (Executive Committee - Sections - Commissions). The drawback of the present state is the gaps and overlaps in the coverage of the sum of astronomical branches. The drawback of the three-level system is a certain amount of bureaucracy and higher costs of administration, for it would, as suggested, imply 6 Sections covering 33 Commissions. Each section would be responsible for from 3 to 8 Commissions, the membership of each Commission ranging from 130 to 450. An interim solution might be found in grouping the Presidents of Commissions into Sectional Committees, each such Committee headed by one of the Vice-Presidents of the Union.

The document read was found very interesting by the Executive Committee. It was agreed that this subject should be kept on record for further study, and that the problem of Vice-Presidents of the Union as heads of Sectional Committees should be referred to the Special Nominating Committee.

It was felt by some members of the Executive Committee that the number of existing commissions was too large. The Executive Committee decided to study at its next meeting the problem of how to "contract" commissions into a smaller number.

Associate National Membership and Relations with non-member countries.

10. The General Secretary read to the Executive Committee a document prepared for submission to the General Assembly on the admittance of certain countries as Associate Members of the Union. The discussion of this point arisen at the XXVIIth meeting of the Executive Committee, brought a detailed analysis of the problem in question, which showed that the introduction of a new category of membership without financial contribution is undesirable, especially with regard to the fact that the contribution paid by a country adhering in the lowest category does not exceed \$ 200, which is a sum easily paid even by developing countries.

Hence it was resolved to take this item from the agenda. The General Secretary was authorized to notify accordingly those countries who had been informed of the possibility of adhering to the Union as Associate Members.

11. The General Secretary reviewed briefly the content of his consultations with Professor Mao Lin Tcheng of Academia Sinica, as to the relationship of the People's Republic of China to the Union, and pointed to the negative results they had led to. On the other hand, he emphasized the eagerness of other countries, such as Algeria, Colombia, Nigeria, Iran and Pakistan to be eventually admitted as Union members.

It was agreed to authorize the General Secretary to continue in the correspondence commenced.

IAU Publications.

12. Report of the General Secretary on the present state of IAU Publications.

The General Secretary presented a document from which it was seen that the sales of IAU publications were as follows: 70 volumes of IAU Transactions XI A, 26 volumes of IAU Transactions XI B, 465 volumes of Transactions XII A and 141 volumes of Transactions XII A to IAU Members. The income from sales of IAU Publications was \$ 6,827.46 in 1964, \$ 3,580.79 in 1965 and \$ 6,750.69 in 1966. On the other hand, costs of printing amounted to \$ 13,432.32 in 1964, \$ 23,559.71 in 1965 and \$ 31,808.03 in 1966. The General Secretary emphasized the necessity of a new policy of publication based on the principle of homogeneity in presentation and shape of IAU volumes, speed and low prices. The

solutions that may be attempted are as follows :

- a) status quo;
- b) Have editing done by the publisher who would be the sole responsible, at no cost, but no profit for IAU;
- c) Publishing in journals (as in the case of Symposium n°23, when copy is coming, the book being made later out of scattered reprints);
- d) Change over to another type of print and presentation (or to the previous inhomogeneous system);
- e) Discontinue altogether IAU publication of Symposia

After a lengthy discussion which brought forth numerous suggestions it was agreed that the General Secretary be authorized to devise a new system of IAU publications and to formulate the views of the Executive Committee on the publication of Symposia in a resolution stating that as from Symposium n° 32 (inclusively) 51 onwards, the publication of the proceedings of Symposia might only exceptionally be the responsibility of the Union (for details see appendix), if the present policy proves after a careful study over a few months unsatisfactory.

13. Report of the General Secretary on the distribution of IAU Publications.

The General Secretary read to the Executive Committee a document he had prepared on the present and future distribution list of IAU Publications. He proposed to carry into practice the previous resolution of the Executive Committee, that is that institutions would purchase IAU Publications through normal commercial channels, except they had difficulties in currency exchange or were in developing countries. Accordingly a new curtailed distribution list was submitted by the General Secretary to the Executive Committee for approval.

In the ensuing discussion, members of the Executive Committee were of the opinion that the Union was too generous both to Members and Institutions and that a new system should be devised with fewer copies distributed free of costs. It was resolved to authorize the General Secretary to prepare a new distribution list for IAU Publications taking into account the views expressed by the Executive Committee, and to work out a new system, more malthusianic than before, of distributing reprints from Transactions and Symposia.

Scientific Activities of the Union.

XIIIth General Assembly.

14. Invited Discourses.

The General Secretary reviewed briefly the progress made in his consultations with the speakers proposed to give Invited Discourses at the XIIIth General Assembly. It was agreed that the following three Invited Discourses be placed on the agenda of the Prague General Assembly:

- A) The Quasars (uncertain title) - Professors Sandage and Ryle.
- B) Couches extérieures et structure interne des Etoiles - Professor Ledoux.
- C) Exploring the Moon - Professor Mikhailov.

Simultaneous interpretation facilitated by a translated abstract prepared in advance will be provided for to overcome language difficulties as much as possible.

15. Joint Discussions.

The Assistant General Secretary reviewed a document on the consultations he had with Presidents of Commissions concerning the Joint Discussions to be held at the XIIIth General Assembly. He emphasized that special care was taken not to have more Joint Discussions than permitted by the time available. After a detailed discussion it was agreed to put the following Joint Discussions on the agenda of the Prague General Assembly :

- A) Fundamental Astrometry, with Professors Stoy or Fricke as chairman of the Organizing Committee. Three hours.
- B) Combined Joint Discussion on Techniques in Space Research and on X-ray Astronomy - with Professor Goldberg as chairman of the Organizing Committee. Six hours
- C) The Lithium Problem - with Professors Böhm or Herbig as chairman of the Organizing Committee . Three hours.
- D) Quasi Stellar Spectra; and Observations of a Selected Number of Quasi Stellar Sources - with Professors Bidelman or Ambartsumian as chairman of the Organizing Committee. Six hours.

Provided that another than Commission n° 45 is interested :

E) Photoelectric Detection and Study of Peculiar Solar Spectra. Three hours. The chairman to be decided upon later.

The Assistant General Secretary will provide more accurate data later on, after detailed consultation with the interested president of IAU commission, especially with regard to the topics covered the composition of the Organizing Committee, and the duration. It was also felt that "raini discussions" between young and less young astronomers should be encouraged at the General Assembly possibly by an organizing on a large scale individual "rendez-vous". More thought will be given to this point in the coming months.

IAU Symposia and Colloquia.
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16-18. Report of the Assistant General Secretary on past and future Symposia and Colloquia.

In his report, the Assistant General Secretary reviewed briefly the Symposia held since the XXVIIth meeting of the Executive Committee in Nice, that is Symposia n° 29 - Instability Phenomena in Galaxies, Burakan, May 1966; n° 30- Determination of Radial Velocities, Toronto, June 1966; n° 31- Radio Astronomy and the Galactic System, Noordwijk, August 1966. Moreover, he pointed out the progress made in the organization of future Symposia already approved. This concerns in particular the following Symposia:

n°32 Continental Drift, Secular Motion of the Pole, and Rotation of the Earth, March 21 to 25, 1967, Stresa, Italy - organized by the IAU in cooperation with IUGG.

Organizing Committee : W. Markowitz (Chairman)
E.P. Fedorov
B. Guinot
P.J. Melchior
M. Torao
I. Zagar (Local Organization)

Editors: W. Markowitz and B. Guinot.

Programme: The principal purpose of the Symposium is to prepare proposed programs for the study of continental drift by means of astronomical observations. These programmes are to be submitted to the IAU and the IUGG, which meet later in 1967, for further consideration and possible adoption. In addition, the Symposium will discuss related problems, such as the secular motion of the pole and the rotation of the earth.

IAU subvention 1200 \$ (IUGG subvention also 1200\$).

n°33 Physics and Dynamics of Meteors, September 3 to 9, 1967, Tatranska Lomnica, Czechoslovakia.

Organizing Committee: L. Kresak (Chairman)
Z. Ceplecha
A.I. Cook II
B.J. Levin
P.M. Millman
1 member from Space Satellite Program
in the USA

Programme: The following subjects were proposed to be discussed
Physics: Observational Evidence - meteor spectra, meteor radar echoes, meteor dust collecting. Physical Theory: theory of ablation theory of luminosity and ionization, structure and fragmentation of meteoroids, meteor masses. Dynamics: Meteor velocities and orbits, interpretation of satellite observations of meteoroid impact, the size distribution of meteoroids, the major and minor meteor showers and streams, distinction between asteroidal and cometary meteors, the origin of meteoritic material.

IAU Subvention 1966 (1500) \$.

n° 34 Planetary Nebulae, September 3 to 9, 1967, Tatranska Lomnica, Czechoslovakia.

Organizing Committee: M.J. Seaton (Chairman)
L.H. Aller
Y. Andrillat
K.H. Böhm
D.L. Osterbrock
L. Perek (Local Organization)
S.B. Pikelner
B.A. Voroncov-Veljaminov
K. Gebbie (Secretary of the CC)

Programme: Discovery, velocities, distances and galactic distribution. Spectra, atomic processes, chemical compositions. Radiative transfer and ionization structure. Structure and dynamics of the nebulae. Spectra of the central stars. Evolution of the nebulae and of the central stars.

IAU subvention 1966 (1500) \$.

n°35 The Structure and Development of Solar Active Regions, September 2 to 7, 1967, Budapest, Hungary.

Organizing Committee: K.C. Kiepenheuer (Chairman)
L. Davis
L. Dezsö (Local Organization)
A.D. Fokker
R. Michard (ISCY)
A.B. Severny
H.J. Smith (for the deceased Dr J. Lindsay)
Z. Svestka
H. Tanaka

Programme: Results of cooperative study of solar active regions (COSAR, April-September 1965) with a particular interest in the development of solar active regions and in the final decay of their magnetic fields. Results of the research of solar active regions from other periods of the solar cycle with a particular interest in: (1) the structure and development of magnetic fields in solar active regions, (2) general problems of high resolution patrol of solar active regions, (3) coronal activity regions, (4) radio emission from solar active regions, (5) emission of energetic particles from solar active regions into the interplanetary space.

IAU subvention 2000 (2500) \$.

Newly proposed and approved in principle were the following Symposia:

The O, Of, and Wolf-Rayet Stars, proposed by J. Sahade. Only approval in principle was asked for.

X-rays Astrophysics, proposed by L. Gratton.

Note: The Executive Committee expressed its satisfaction with the joint IUTAM-IAU Symposia on Cosmical Gas Dynamics and approved the next (6th) meeting of this kind. It was recommended, however, that this next symposium should not be organized under the name "Cosmical Gas Dynamics", but rather under that of its specific subject matter, and without a serial number. A rotation amongst the organizers of the symposia would be welcome.

The Assistant General Secretary then reported on the Colloquia held since the XXVIIth meeting of the Executive Committee (Blanketing Effect, Heidelberg, March 1966; Late-Type Stars, Trieste, June 1966; Atomic Collisions, Boulder, July 1966; Evolution of Double Stars, Uccle, September 1966) and outlined the future Colloquia agreed as follows:

International Conference on Spectroscopy, to be held in Bombay, January 9 to 18, 1967.

Organizing Committee : R.K. Asundi
N.A. Narasimham

Organized under the auspices of the Department of Atomic Energy, India. Sponsored by IAU, IUFAC, and IUPAP. The programme will cover radio-frequency and microwave spectroscopy, infra-red and Raman spectroscopy, and optical spectroscopy of atoms and molecules.

More than 100 participants and from 11 foreign countries likely to attend. About 37 participants having financial problems.

Zodiacal Light and the Interplanetary Medium, January 30 to February 2, 1967, Honolulu, Hawaii.

Organizing Committee : F.E. Roach (Chairman)
P.M. Millman
J.L. Weinberg (Local Organization)

Programme : Survey of observations of the zodiacal light with special reference to recent results from both ground based equipment and satellites; the nature of the interplanetary medium with special reference to the zodiacal cloud; the astronomical origin and history of the zodiacal cloud.

No further development was recorded as to the Colloquium on Variable Stars, originally proposed to be held in Budapest, 1968.

Newly proposed and approved in principle were the following Colloquia :

Colloquium on Space Spectroscopy, proposed by J.A. Hynek, to be held at the Lindheimer Astronomical Research Center at Evanston, Illinois, in early May 1967, for two or three days. Supported by L. Goldberg.

Organizing Committee : K.G. Henize (Chairman)
plus 3 or 4 members

Subject matter will be probably limited to techniques of space spectroscopy.

Colloquium on the Gravitational n-body Problem, proposed by G. Contopoulos, to be held at the Observatoire de Paris, August 16 to 18, 1967.

Organizing Committee : G.M. Clemence (Chairman) (accepted).
Y. Hagihara
Ezebehely
G. Contopoulos

J. Delhaye (Local Organization)
L. Ferek ?

Subject matter: analytic and numerical methods applied recently to the n-body problem.

Publication possibly in the Bulletin Astronomique.

Stellar Rotation and Other Distorted Stars, proposed by I. W. Roxburgh, to be held at the University of Sussex, England, the week prior to the XIIIth GA.

Mirror Support Systems, proposed by D. L. Crawford, to be held in November 1966, probably in the southwest of the USA.

Co-chairman : A. Meinel
D. L. Crawford

No IAU grant requested.

The Final Stages of Stellar Evolution, proposed by V. Weidemann to be held at Pasadena, California, in 1968.

Other Scientific Meetings

19-21. The Assistant General Secretary reviewed briefly the scientific meetings organized by other bodies with and without IAU representations. Special attention was drawn to the following meetings :

Les Nouvelles Méthodes de la Dynamique Stellaire, to be held at Besançon, France, September 21 to 24, 1966. Organized by Dr Hénon and Dr Nahon. About 20 to 30 participants upon invitation.

Meetings of the Council of IAGS, Paris, 26 September 1966.

Special Meetings on Solar Astronomy, Boulder, Colorado, October 3-5, 1966. Organized by the American Astronomical Society. Headquarters: Harvest House Hotel, Boulder, Colorado.

IVth Session of Regional Association IV (North and Central America) of the World Meteorological Organization, Asheville, North Carolina (USA), 4-13 October 1966.

IVth meeting of Executive Committee of ICSU, Monaco, 7 and 8 October 1966. IAU representative : J.-C. Pecker.

XIIe Congrès International d'Aéronautique, Madrid, Spain, October 10 to 15, 1966. Organized by the International Federation of Astronautics.

Third meeting of UNESCO Working Group on Meteorites,

Paris, 12 to 14 October 1966.

Symposium on the Origin and Distribution of Elements, organized by the International Association of Geochemistry and Cosmochemistry. To be held in Paris in October 1966, probably postponed. No IAU representative. From among IAU members, Dollfus is organizing section 4, Bidelmann resigned as chairman of a section.

14e Session de la Conférence Générale de l'UNESCO, Paris, 25 October to 30 November 1966.

Fifth Session of the World Meteorological Congress, Geneva, Switzerland, Palais des Nations, 3 to 28 April 1967. IAU to be represented by observer. ^

International Conference on Electronics and Space, Paris, 10-15 April 1967, organized by the Société Française des Electroniciens et des Radioélectriciens, sponsored by the Fédération Nationale des Industries Electroniques.

General Assembly of the Royal Astronomical Society of Canada in Montreal, Quebec, 19-21 May 1967.

Fourth IQSY Assembly and Symposium, to be held in London, England, July 17 to 22 1967.

Symposium on the Communication with Extraterrestrial Intelligence, organized by the International Academy of Astronautics, to be held in Paris ? in 1967. IAU Members present in the Working Group: Sklovsky, Whipple, Ginzburg.

Symposium on X-ray Astrophysics, to be held in Tokyo during the COSPAR meeting in 1968.

Interdisciplinary Conference on Meteorites, Vienna, 1968. Organized by the International Atomic Energy Agency, advanced planning Committee: group of UNESCO.

Physics of the Magnetosphere. A symposium planned by the IAGA and IUCSTP to be held in Washington in 1968. URSI, COSPAR, and IAU will be invited to participate.

Solar-terrestrial Relationship in Selected Special Events. Planned by IAGA for 1970. Possibly associated with the IAU XIV GA in Great Britain?

Special Projects

22. Installation with IAU financial aid of a Coronagraph in Peru.

It was resolved to take this point from the agenda, as it lies within the responsibility of each Government concerned to provide the funds necessary for such equipment. It would be unjustified to allocate funds needed for more pressing needs to enterprises of purely local interest.

23. Extension of grant requested for the Information Bulletin for the Southern Hemisphere. It was agreed that the sum of \$ 1400, originally granted for the years 1965, 1966, may be used in the years 1966, 1967 for the publication of the Information Bulletin for the Southern Hemisphere. The General Secretary was authorized to remit the funds requested provided they reach Professor Cahade in person (note of the General Secretary: this has been proved possible).

24. Re-edition of Catalogue of Star Clusters and Associations. The General Secretary reminded the Executive Committee that a sum of \$ 1500 was available in the budget as subsidy for the re-edition of the catalogue in question, and that an agreement has been reached between Dr Alter, the author of the catalogue, and the Publishing House of the Hungarian Academy of Sciences on the royalties to be paid, so that the publication of the catalogue is only a matter of time. It was agreed that the remittance of the funds allocated should not be made until a contract between the author and the publishers is presented to the General Secretary.

25. Bibliography of Astronomy. The General Secretary reviewed briefly the progress made by Professor Velghe and his collaborators in assembling a Card Catalogue called "Bibliography of Astronomy 1881-1898" and reported that, upon completion, this catalogue would be published by the Observatoire Royal de Belgique. It was agreed that the General Secretary should write a letter to Dr Dermul and to Professor Velghe thanking them for the work done, otherwise, however, not to commit any more the Union.

25 b. Filtrograms of the Monte-Mario Observatory. Professor Svestka (invited to give the Executive Committee an account of the situation in IUCSTP) reported, also that the Monte-Mario Observatory is prepared to publish an Atlas of Filtrograms, provided it obtains an IAU subsidy to this purpose. It was found that the Union was interested in the enterprise, but did not wish to enter any commitments. The General Secretary will write a letter supporting the project in principle.

Relations with other Organizations.

26. UNESCO Contracts.

The General Secretary reviewed the two contracts between UNESCO and IAU, one on the exchange of astronomers, the other on long-term scholarships for young astronomers.

- a) Contract NS/2477/65 ED BOC 0085 provided a sum of \$ 2,000 to be used by the Union for furthering the exchange of astronomers during 1965-1966. This fund, administrated by Commission n° 38, has practically been spent. It was allocated in the form of grants to astronomers from developing countries travelling in the interest of astronomy.
- b) Contract NS/3034/66 ED BOC 5555 provides for a sum of \$ 4,000 to be spent by the Union on long-term scholarships to young astronomers studying at major Observatories. Not enough candidates were really available : only two, one of which was clearly uneligible. Reasonable funds will be allocated to the other one (from Bolivia to Switzerland) for one year scholarship (Note: Professor Schatzman, President of Commission 46, has expressed his support to this allocation through a recent conversation with the General Secretary.)

It was agreed to continue the discussion by correspondence.

27. International Council of Scientific Unions - Report on General Assembly.

The report of the General Secretary on the ICSU General Assembly in Bombay, January 1966, had previously been circulated among the members of the Executive Committee. It was agreed that this being so a discussion would be redundant.

28. Inter-Union Bodies.

A) Report on the co-ordination of inter-union bodies dealing with solar-terrestrial physics.

Upon suggestion of the General Secretary, the Executive Committee agreed that a report on the present activities of the newly formed IUCSTP nucleus should be presented by Professor Svetska, the IAU representative in the Inter-Union Commission of Solar-Terrestrial Physics. Invited to do so, Professor Svetska gave a brief account of the IUCSTP meeting held in Belgrade, 27 August, and outlined the structure and terms of reference as proposed for this body. He pointed out that it had been resolved to add to the 5 representatives of the ICSU bodies in IUCSTP, 12 discipline representatives, that is

two for each of the following disciplines: Solar Activity; Particles and Fields in Interplanetary Space; Radiation Belts, Aurora, and Airglow; Geomagnetism; Ionosphere; Aeronomy. The IAU was invited to select three names in each discipline in which it is interested. After a detailed discussion, the Executive Committee resolved to recommend 6 names, that is those of C.A. Allen, J. Evans, D. de Jager, T. Takakura, R. Michard and E.R. Mustel. Moreover, a resolution was adopted concerning the Statutes, Constitution and Functioning of IUCCTF and its relation to national members. For more details see appendix.

B) Policy of IAU with regard to COSPAR.

The General Secretary briefly outlined the latest developments in the IAU-COSPAR relationship and pointed out that the latter organizes a number of "panels", such as that on flares or that on collection and detection of interplanetary dust, which clearly encroach upon the IAU field of activity. He showed, moreover, that COSPAR is passing resolutions on questions beyond its province, such as that urging FAGE to continue and increase its support to SPARMC, or that on the Catalogue of Stars of the Southern Hemisphere. Another point where COSPAR interferes with the activity of the Union is the various symposia it organizes without previous consultation with the IAU, such as the symposium on X-rays, to be held in Tokyo, 1968. The General Secretary therefore asked that he be authorized to bring the problem of the relations between IAU and COSPAR before the Executive Committee of ICSU, which will meet in Monaco in October 1966. The discussion showed that the complaints raised by the General Secretary were well founded. Accordingly it was agreed that the General Secretary should present the views of the Executive Committee to the meeting of the ICSU Executive Committee at Monaco, and prepare a letter to this purpose for the President of COSPAR.

29. Representation.

This item was dealt with in connection with points 16-21 of the agenda. It was agreed that the General Secretary should send a letter of thanks to the IVth Session of the Regional Association IV of the World Meteorological Organization to be held in Asheville, stating that the IAU would not be represented. Moreover, it was agreed that he represent the Union at the 14th Session of the General Assembly of UNESCO to be held in Paris from 25 October to 30 November 1966.

Federation of Astronomical and Geophysical Services (FAGS).

30. Report of the General Secretary on the new Constitution of BIH and its Directing Board.

The report in question having been published in Information Bulletin n° 16 it was agreed that a discussion of this point would be redundant.

As to FAGS, the former General Secretary informed the Executive Committee that though the allocation of funds to Unions and Permanent Services is one of prerogatives of the Council of this body, it is being influenced by ICSSU commitments. He asked the Executive Committee to be authorized to bring this problem before the forthcoming FAGS meeting.

Varia and Formal Decisions.

31. Resolution on the Universal Use of the Metric System.

The General Secretary submitted to the Executive Committee a draft of the resolution proposed to be passed. After a brief discussion it was agreed to adopt this resolution in the form, as given in the appendix.

32. International co-operation for a possible reception of signals of extra-terrestrial origin.

The Assistant General Secretary outlined the problem and stated that the international co-operation for a possible reception of extra-terrestrial signals has first been proposed by the Academy of Sciences of the U.S.S.R.. He pointed out that a Symposium on the same study subject will be held by the Academy of Astronautics. It was suggested the Union would ask to be regularly informed of this symposium but without any formal representation.

33. International Year of Observations of a Selected Number of Quasars.

The General Secretary read to the Executive Committee a letter by Professor Sklovsky proposing an International Year of the Observation of a Selected Number of Quasars. After a short discussion, the Executive Committee expressed its approval of this programme and passed a resolution recommending the enterprise to the attention of observatories and other interested institutions. For details see annex.

34. English or French Abstracts of Papers written in Russian.

The General Secretary read a letter by Professor Sahade

emphasizing the desirability of having Russian papers provided with English or French abstracts . Professor Severny informed the Executive Committee that English or French abstracts are included in most of Russian astronomical papers. More generally, the bilinguism of abstracts, recommended in the past by the IAU, has never been very general; therefore, Dr Sahade's wish being a little academic, it is better not to take any action.

35. International Human Rights Year 1968.

The General Secretary informed the Executive Committee of the forthcoming International Human Rights Year 1968. The Executive Committee found that the IAU would best contribute to this event by continuing to support the human rights of its Members and of Astronomers in general allover the world, but not by a formal adherence to this enterprise.

36. Twenty-ninth meeting of the Executive Committee.

The General Secretary stated that the twenty-ninth meeting of the Executive Committee would be held in Prague in conjunction with the XIIIth General Assembly. This statement was acknowledged without discussion.

Other Questions.
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The General Secretary read the draft prepared by a group of three members (Haro, Pecker, Schwarzschild) of the letter to be sent to the Secretary of Education of Argentina as regards the situation of scientists and science in this country. This draft was approved unanimously. It was agreed that a copy of the English version of this letter should be sent to the General Secretary of ICSU.

In conclusion, the President spoke a word of thanks to the General Secretary for the efficient preparation of the meeting and to the members of the Executive Committee for the good work done.

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13/10/1966