

I N T E R N A T I O N A L   A S T R O N O M I C A L   U N I O N

TWENTY-THIRD MEETING OF THE EXECUTIVE COMMITTEE

EREVAN, ARMENIA

Thursday, 30 August to Monday, 3 September 1962

Summary Report

The meetings were held, by invitation of the Armenian Academy of Sciences, in the Council Room of the Presidium of the Armenian Academy of Sciences, in Erevan, Armenian S.S.R. Sessions were held as follows:

Thursday, 30 August: 11:15 a.m. - 2:00 p.m.

Friday, 31 August: 10:15 a.m. - 1:30 p.m.

Saturday, 1 September: 10:15 a.m. - 2:15 p.m.

Monday, 3 September: 7:15 p.m. - 10:30 p.m.

The following were present: V. A. Ambartsumian (President); L. Goldberg, Y. Hagihara, G. Haro, R. M. Petrie, B. Sternberk, R. H. Stoy (Vice-Presidents); D. H. Sadler (General Secretary); J. H. Oort (former President); J. C. Pecker (Assistant General Secretary).

Professor A. A. Mikhailov was present at the opening of the first session and, by invitation, presented the report which led to Resolution No. 7. Miss Dorothy Bell attended as Assistant Secretary.

Introductory note: The following report is intended primarily as a record of the decisions taken by the Executive Committee at the above meetings; it is not intended to be a complete report of all the proceedings, and it contains accounts of the discussions only when these are considered of some permanent value as a record. For convenience of reference, the report on each item is recorded under the item number in the following list of agenda, independently of the order in which it was taken at the meeting. (The Report of the Committee on Future Organization, the Draft procedure for the nomination of membership of Commissions, the Report of the special committee on the Future Structure of ICSU, the Report from the Secretary General of CIG, are not included in this Report as circulated; they will, however, be attached to the copy of the Report kept in the archives of the Union, together with such other items of agenda as may be relevant.) For convenience, the texts of the seven resolutions formally adopted by the Executive Committee have been reproduced separately, and attached to the Report; they are not repeated in the Report itself.

Agenda

1. Opening by the President
2. Report by the General Secretary
3. Special Nominating Committee
4. Adherence of member countries
5. Future Organization of the Union
6. Commissions and their membership
7. Twelfth General Assembly of the Union
8. Symposia
9. Informal Colloquia
10. Publication of the proceedings of Symposia
11. Space experiments with potentially undesirable effects on astronomy
12. International Polar Motion Service
13. Bibliography of Astronomy, 1881-1898
14. Grant to Commission 16
15. Distribution List
16. The future structure of the ICSU
17. Agenda for the ICSU Executive Board
18. Comité International de Géophysique and the International Year of the Quiet Sun
19. Relations with COSPAR
20. Inter-Union Committees
21. Thirteenth General Assembly, 1967
22. Twenty-fourth Meeting of the Executive Committee
23. Representation at various meetings
24. U.S.S.R. Expedition to Southern Hemisphere
25. Aids to the organization of astronomy in astronomically underdeveloped countries

### INTRODUCTION

Before the opening of the first session on Thursday, 30 August 1962, the members of the Executive Committee were welcomed by the President of the Astronomical Council of the Academy of Sciences of the U.S.S.R., Professor A. A. Mikhailov. He expressed the pleasure of the Academy that a meeting of the Executive Committee was being held in one of the Republics of the U.S.S.R.

At a reception at the Academy of Sciences of the Armenian S.S.R., on the evening of 31 August 1962, members of the Executive Committee were welcomed by the Vice-President of the Academy, Professor H. Bunatjan, who presented each member of the Committee with a medallion, made of Armenian onyx-like marble, to commemorate the occasion.

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1. Opening by the President. The President welcomed the members of the Executive Committee, both personally and in the name of the Armenian Academy of Sciences, and expressed his great pleasure that all members, including both the former President and the Assistant General Secretary, had found it possible to attend.

2. Report by the General Secretary. The General Secretary said that he had little to add to the reports he had made in Circular Letters Nos. 20-26. However, he wished to make the following remarks:

(a) Administration. The last year has put a considerable strain on the small resources of the Administrative Office, in spite of the great help from the Assistant General Secretary in respect of the organization of Symposia. Miss Splinter returned to the Netherlands on 23 August, after giving the Union magnificent service; Miss Bell took up duty at Herstmonceux on 9 July 1962.

(b) Transactions of the IAU. Volume XIA, of about 600 pages, was published in May and distributed to all Members and Institutions on the Distribution List. The first proofs of Volume XIB, of about 530 pages, have all been returned for paging, and some page proofs for printing; publication is expected in November.

(c) Finance. The overall cost to the Union of the eleventh General Assembly in Berkeley was less than anticipated, thanks to a generous readjustment of expenditure by the U. S. National Academy of Sciences. The expenditure since 1 January 1962 will have been slightly in excess of the Budget estimates, due to duplication of secretarial assistance in Paris, to the increase, by over 50 per cent, in the size of the Transactions and to certain unforeseen grants. Most countries have already paid the increased contribution.

No action has been taken in respect of the investment of the Union's reserves in view of the confused world financial situation; these reserves now amount to a total of about \$57,500, all in Savings Bank accounts in U.S.A.

(d) Presentation to Miss Splinter. All members of the Executive Committee gave their agreement to the proposal that Miss Splinter's service to the Union should be recognized by a leaving present. A watch was purchased and, for convenience, was presented to Miss Splinter before she returned to the Netherlands.

(Members of the Executive Committee put their signatures to an expression of appreciation which would be communicated to Miss Splinter through the courtesy of Professor Oort.)

3. Special Nominating Committee. Consideration was given to the choice of a retiring member of the Executive Committee to serve on the Special Nominating Committee, as appointed by the eleventh General Assembly. Of the five members eligible, Mr. D. H. Sadler was chosen. The composition of the Special Nominating Committee is as follows: V. A. Ambartsumian (President); J. H. Oort (former President); D. H. Sadler (retiring member of the Executive Committee); and Ch. Fehrenbach, M. Miyadi, J. Sahade, A. E. Whitford (appointed by the eleventh General Assembly).

4. Adherence of member countries. The General Secretary reported that he had received a letter from the General Secretary of the Deutsche Akademie der Wissenschaften zu Berlin (the Academy) in which he requested that, as from 1 January 1963, the Deutsche Demokratische Republik should adhere to the Union separately (instead of jointly with the Deutsche Bundesrepublik), with the Academy as Adhering Organization; he further proposed that the category of membership should be 4.

He also reported that the Deutsche Demokratische Republik adheres to the International Council of Scientific Unions through the Academy, and that the application is therefore in proper order, and is in full accord with the Statutes of the Union.

He further informed the Committee that he had been in consultation with Dr. H. Haffner, President of the Astronomische Gesellschaft, the organization through which both German Republics at present adhere. Dr. Haffner had informed the General Secretary that it would no longer be possible for the Deutsche Bundesrepublik to adhere through the Astronomische Gesellschaft; but it would be possible for it to adhere through a new organization, "Rat Westdeutscher Sternwarten."

It was agreed that

- (i) the application for separate membership from the Deutsche Demokratische Republik be accepted, with the Academy as Adhering Organization, and with membership in Category 4;
- (ii) the President of the Astronomische Gesellschaft be informed of this decision;

(iii) the Deutsche Bundesrepublik be invited to propose amendments to the form of its adherence and to its category of membership.

The Executive Committee agreed to consider, and if possible to accept, such a proposal by correspondence, rather than to wait until its next Meeting.

5. Future Organization of the Union. The Executive Committee considered the Report of the Committee on Future Organization which had been prepared by the Executive members of the Committee and previously circulated.

Consideration was given in turn to the eight specific recommendations by the Executive members (items (a) to (h) in paragraph 3 on pages 2 to 5 of the Report).

It was agreed that decisions taken at this meeting would be regarded as provisional, that they would first be reported as a matter of courtesy to the Committee on Future Organization, then be published in an Information Bulletin and circulated informally to Adhering Organizations, before being formally confirmed, with or without modification, at the 24th Meeting of the Executive Committee in 1963.

(a) Assistant General Secretary. It was agreed that an Assistant General Secretary should be added to the Executive Committee, in addition to the six Vice-Presidents. If practicable, a more suitable title should be chosen. It is anticipated that the Assistant General Secretary would normally succeed the General Secretary after a period of three years, so that the normal procedure will be for an individual to serve for three years as Assistant General Secretary followed by three years as General Secretary.

The actual division of duties between the General Secretary and the Assistant General Secretary will depend both upon personal inclinations and upon the extent of administrative assistance that is available to each.

It was agreed that the Statutes and By-laws should be amended to indicate the normal procedure as described above, but to allow departures from this normal procedure in exceptional cases.

(b) Categories of Membership. Consideration was given to a revision of the categories of membership in order to decrease the present relative disparity between the contributions from the smallest and the largest countries, and to encourage an increase in the total contributions from Adhering Countries. It was agreed to recommend the following new categories of membership:

|                                      |   |   |   |   |    |    |
|--------------------------------------|---|---|---|---|----|----|
| Category                             | 1 | 2 | 3 | 4 | 5  | 6  |
| Units of Contribution                | 1 | 2 | 4 | 6 | 10 | 14 |
| Number of votes on financial matters | 2 | 3 | 4 | 5 | 6  | 7  |

The hope was expressed that those countries at present opting for the old category 8 would now opt for category 6, and so increase their contribution from 8 units to 14 units. The General Secretary estimated that the Union might expect an increase in annual income of about \$10,000 a year by this re-arrangement without increasing the unit of contribution.

(c) The General Assembly and Scientific Congress. After a lengthy discussion of the whole problem of the organization of scientific meetings during a General Assembly, the Executive Committee did not consider it desirable to accept recommendation (ii), which would have had the effect of dividing the General Assembly into separate sections. It was thought that some re-arrangement of the principal meetings was desirable, in order to separate more clearly the purely administrative meetings from the purely scientific meetings. However, it was left to the General Secretary to make such arrangements in consultation with Presidents of Commissions; preparations for scientific meetings during the General Assembly should be made as early as possible, and the General Secretary was authorized to give more specific directions than previously.

On the proposal of the General Secretary, Resolution No. 1 (Scientific Meetings during a General Assembly) was formally adopted.

It was agreed that publicity be given in an Information Bulletin to the rules regarding the participation of non-Members, and to the adopted procedure and time-table for issuing invitations; and that the rules, procedure and time-table be strictly observed.

(d) Commission Structure. Action on this item was taken under Agenda Item No. 6.

(e) Draft Reports and Transactions. During the discussion on this matter, the General Secretary said that he had recently investigated in further detail the relative merits of continuing the present practice of printing the Draft Reports before the General Assembly, and of the alternative suggestion made by the Committee. He recommended that the present practice should be continued because it was clearly more satisfactory for all Members to receive copies of all Reports, and it would prove no more expensive than the alternative.

It was agreed that the Transactions should be published in two or more volumes. The General Secretary suggested that there should be two volumes. Volume A would contain: the report of the Inaugural Ceremony; the proceedings of the General Assembly; Resolutions; the report of the Executive Committee; the reports of the administrative Commissions; Statutes and By-Laws, list of Members, etc.; reports of administrative and business meetings of Commissions; and the texts of the Invited Discourses. Volume B would include: the scientific reports of the Commissions, which had previously been distributed in draft form to all Members; the reports of the scientific meetings of Commissions; and the reports of the Joint Discussions.

The General Secretary estimated that Volume A would contain about 300 pages, and should be published as quickly as possible after the General Assembly. Volume B would contain about 900 pages, of which more than one-half would already be in proof form. It should be possible to publish Volume A within six months of the General Assembly, and Volume B within twelve months.

However, the Executive Committee realized that the precise division of the Transactions volumes must be left to the decision of the General Secretary at the time concerned, and no final recommendation was made.

(f) Payment for Publications. The Executive Committee considered a draft proposal from the General Secretary to the effect that Institutions on the Distribution List should be invited to pay an annual subscription towards the cost of supplying them with IAU publications; he also suggested that Members should be asked to pay for that part of the Transactions containing the reports of Commissions, which they had already received in draft form. After discussion, Resolution No. 2 (Charges for Publications to Institutions on the Distribution List and to Members) was adopted. Exceptionally, it was agreed that this decision should come into operation at once, and that Institutions should be invited to subscribe for 1963 onwards.

(g) Administrative Office. The Executive Committee accepted the recommendation that there was a need for a close investigation into the requirements for a permanent Administrative Office. It is recognized that the administrative work of the Union is increasing so rapidly that a permanent office might soon be essential. Dr. Pecker mentioned the possibility that such an administrative office might be established in connection with the proposed International Centre of Astrophysics at the Observatory in Nice. If Dr. Pecker becomes General Secretary in 1964, the Administrative Office would be in Nice so that a decision on its permanent location there could be deferred until 1967.

(h) Publication and Presentation of Scientific Papers. After a discussion on the recommendation, the Executive Committee adopted Resolution No. 3 (Duplication of Published Astronomical Material).

(i) Effect of Space Research, and relations with other organizations, particularly COSPAR. See the report under Agenda Item No. 19.

(j) The Revision of the Statutes. The General Secretary reported that he had now obtained an assurance that the revised wording of Statute No. 12 (the Legal Domicile of the Union), as adopted at the eleventh General Assembly, involved no conflict with Belgian legislation.

The General Secretary was authorized to draft amendments to the Statutes and By-laws to give effect to any decisions that had been made on Future Organization. These would be considered at the next meeting of the Executive Committee and formally presented to the twelfth General Assembly.

6. Commissions and their membership. Although the Committee on Future Organization had recommended that no drastic change should be introduced into the present structure of Commissions, the General Secretary had made some suggestions for the possible gradual re-organization of the Commission structure as given in the following note:

Re-organization of IAU Commissions

There are two, more or less independent, needs for a clarification of the Commission structure:

- (1) the confusion between "subjects of research" and "tools or techniques" as pointed out by J.-C. Pecker and E. Schatzman;
- (2) the overlap of responsibilities between IAU and other organizations, particularly URSI and COSPAR.

It is suggested that Technical Committees replace some of the Commissions, particularly numbers 40 (Radio Astronomy) and 44 (Space Research). They would differ from Commissions in that

- (a) they are concerned with techniques and with their application to specific subjects of research; but they are not concerned with the results of those applications;
- (b) their principal tasks are to co-ordinate the requirements and responsibilities of the IAU with other organizations interested in those techniques; they also co-ordinate requirements between Commissions;
- (c) membership is limited (say to a total of 6 or 8) and appointments are made by the Executive Committee.

The change could be made gradually, starting with two or three of the most anomalous Commissions. The following overall pattern emerges:

Committees of the Executive Committee (as previously suggested): old Commissions 5, 6, 38.

Technical Committees: old Commissions 9 (Instruments), 40, 44, and possibly also 14 (Wave-length Standards), part of 31 (Time) and 43 (Magneto-hydrodynamics).

Commissions: all other Commissions would remain unchanged, except possibly for some combinations, such as, 4+7+part 17; 10+12; 16+part 17; 19+part 31.

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The Executive Committee agreed with the suggestion to make Commissions 5, 6, and 38 into Committees of the Executive Committee.

In regard to the other suggestions, a decision was deferred until after detailed consultation with the Presidents of the Commissions concerned.



It was agreed to take no action on the suggestion of Professor K. Pilowski of the Geodätisches Institut at Hannover that a new Commission be formed to deal with "Zustandsgrossen und Zustandsdiagramme", primarily to act as an information centre for all essential data for individual stars.

The General Secretary's draft of a proposed procedure for the nomination of membership of Commissions was approved, and it was agreed that full details should be published in an Information Bulletin.

The Executive Committee agreed that it is desirable to complete and circulate "Notes for the Guidance of Presidents of Commissions."

Consideration was given to a proposal, originating from Dr. L. H. Aller, President of Commission 29, that the old Sub-Commission 29c (Stellar Classification) should become a separate Commission. Dr. Petrie was asked to consult with Dr. Aller and Dr. Bidelman about his proposal, and to report at the next meeting of the Executive Committee.

7. Twelfth General Assembly of the Union. As agreed by correspondence, the twelfth General Assembly of the Union will be held in Hamburg from 25 August to 3 September 1964. The General Secretary reported on his preliminary discussions with Professor Heckmann.

Preliminary consideration was given to the selection of subjects and speakers for the Invited Discourses. It was agreed that there should be three Invited Discourses, and that Professor J. H. Oort be invited to give one of these, on some aspect of Galactic Research, the precise topic to be chosen by himself.

As the result of suggestions from individual members of the Executive Committee, a list of some twelve other possible speakers and subjects was drawn up, but no definite choices were made. It was left to the General Secretary to clarify the proposals with the Executive Committee by correspondence.

8. Symposia. (a) Consideration was first given to the symposia previously agreed by the Executive Committee. The following information was given, and the following decisions were taken, in addition to those reported in the Summary Record of the twenty-second meeting.

No. 18: The Theoretical Interpretation of Upper Atmosphere Emissions. This symposium was held in Paris on 25 to 29 June 1962; it was attended by about 85 participants, and is reported to have been most successful. The proceedings are being published in "Planetary and Space Science."

No. 19: Site Testing. This symposium will be held in Rome on 1 to 6 October 1962; all other arrangements are as previously planned.

No. 20: The Galaxy and the Magellanic Clouds. This symposium will be held in Canberra and Sydney, Australia, on 17 to 29 March 1963. The Organizing Committee nominally consists of

IAU members: B. J. Bok (Chairman); F. J. Kerr, A. W. Rodgers (secretaries); J. L. Pawsey, I. G. Bolton, S. C. B. Gascoigne.

URSI members: W. N. Christiansen, M. J. Lequeux.

This Organizing Committee is rather unbalanced with over-representation from Australia. Taking into consideration the correspondence exchanged with Dr. Bok, and the illness of Dr. Pawsey, the Executive Committee has decided to replace Dr. Pawsey by Dr. M. Schmidt on the above quoted list.

The Executive Committee expressed some concern about the danger of overlapping between the subjects treated at this symposium and at Symposium No. 23 (see below), in spite of the efforts of Dr. Bok and of the Organizing Committee to reduce its scope according to the suggestions previously made by the Executive Committee.

No. 21: The System of Astronomical Constants. This symposium will be held in Paris on 27 to 31 May 1962. As previously agreed by the Executive Committee, by correspondence, it will be organized in co-operation with COSPAR, which has appointed Dr. S. Herrick as its representative on the Organizing Committee. This now consists of

IAU members: G. M. Clemence (Chairman); A. Danjon; D. K. Kulikov; K. A. Kulikov; E. Rehtin; D. H. Sadler.

COSPAR representative: S. Herrick.

The General Secretary reviewed the background of the arrangement leading to the participation of COSPAR and explained that some members of the Organizing Committee (particularly Professor Danjon) were not happy at the threatened extension of the scope of the symposium. It was, however, desirable to co-operate with COSPAR to avoid undue overlap (see Agenda Item 19) and he hoped that the present arrangement (though far from ideal) would prove reasonably satisfactory.

No. 22: Stellar and Solar Magnetic Fields. This symposium will be held at Tegernsee (near Munich) on 2 to 11 (or 13) September 1963. The Organizing Committee consists of R. Lüst (Chairman); H. Alfvén; H. W. Babcock; C. de Jager; A. B. Severny.

The organization of this symposium does not pose any difficulty.

Formerly No. 23: Radio Astronomy and the Galactic System. A large amount of correspondence has been exchanged between the Assistant General Secretary and several astronomers, in particular the past and present Presidents of Commissions 33, 34 and 40. Professor Oort has kindly agreed to act as Chairman of the Organizing Committee in spite of his heavy responsibilities elsewhere. Following his advice, and taking into consideration the very heavy programme of Symposium No. 20, as well as its date, the Executive Committee agreed to

postpone this symposium by one year to the summer of 1965; accordingly, it agreed also to suppress its numeration until more definite arrangements have been made.

It is now left to Professor Oort and the Assistant General Secretary to discuss the basis for a definite proposal to the Executive Committee about the composition of the Organizing Committee, the location and the date of the symposium, and its programme, taking into consideration the various proposals made by those consulted. It will, of course, be necessary to keep close contact with URSI about this symposium.

No. 24: Spectral Classification and Multi-colour Photometry. This symposium will be held in Stockholm (Saltsjöbaden) in the summer of 1964, either immediately before or immediately after the twelfth General Assembly of the Union. The Organizing Committee, resulting from suggestions made by the Executive Committee at its last meeting and subsequently by Dr. Bidelman, will be:

W. P. Bidelman (Chairman); E. K. Kharadze; B. Lindblad; W. W. Morgan;  
R. M. Petrie; B. Strömberg; Th. Walraven.

It was agreed that the subject matter of the symposium should be treated in its broader sense.

(b) Consideration was next given to the symposia to be held immediately before or after the twelfth General Assembly (Hamburg, August-September 1964).

In addition to Symposium No. 24 (see above), the following were approved by the Executive Committee.

No. 23: Astronomical results derived from observations from Space Vehicles (provisional title). This symposium, which was suggested by Dr. Goldberg, will probably be held in Liège in August 1964 shortly before the General Assembly. Proposals for membership of the Organizing Committee will be made jointly by Dr. Goldberg and Professor Swings, one of whom will be asked to serve as Chairman. It is assumed that COSPAR will be invited to participate, and to nominate a member (or members) of the Organizing Committee.

No. 25: The Theory of Orbits in the Solar System and in Stellar Systems. This symposium, which was suggested by Professor Hagihara, will be held in Thessaloniki, Greece immediately before or after the General Assembly; the number of participants would be of the order of 50. The composition of the Organizing Committee is not yet decided, but Professor Hagihara would be Chairman, and Professors D. Brouwer and G. Contopoulos would be members. Further nominations, and all other matters concerning the symposium, will be the subject of proposals to the Executive Committee by Professor Hagihara and the Assistant General Secretary.

(o) The following decisions were made in respect of participation in various other proposed symposia.

(i) The Executive Committee agreed to accept the invitation from the President of COSPAR to participate in the COSPAR symposium on "The Moon, Mars and Venus," to be held during the Fourth International Space Science Symposium in Warsaw in June 1963. The Presidents of Commissions 16 (Dr. A. Dollfus) and 44 (Dr. L. Goldberg) were nominated to serve on the Organizing Committee if required; if only one is required, it should be Dr. Dollfus.

(ii) The Executive Committee noted with interest the intention of the Dutch astronomers to organize a symposium in Utrecht, at the end of August 1963, on The Solar Spectrum; it was agreed that this should be publicized in an Information Bulletin.

(iii) The President of Commission 40 (Dr. J. F. Denisse) had proposed two symposia, on radio-astronomical subjects, to be held jointly with URSI in Tokyo in September 1963 in conjunction with the General Assembly of URSI; the Executive Committee noted that these proposals had now been withdrawn, largely because of lack of support from URSI.

(d) The General Secretary reminded the Executive Committee that the following allocations had been agreed:

| Symposium                    | No. 18  | No. 19  | No. 20  |
|------------------------------|---------|---------|---------|
| Grant allocated              | \$ 1500 | \$ 2000 | \$ 3000 |
| Maximum commitment permitted | 2000    | 2500    | 3500    |

In addition, there was a special UNESCO subvention of \$ 5000 for Symposium No. 20.

He tentatively proposed that a grant of \$ 2000 (with a permitted maximum commitment of \$ 3000) be allocated to each of the five symposia Nos. 21-25; this was agreed. It was noted that COSPAR had promised to contribute \$ 1000 towards the expenses of Symposium No. 21.

The Executive Committee agreed to contribute a similar sum, namely \$ 1000, towards the expenses of the COSPAR symposium on the "Moon, Mars and Venus."

9. Informal Colloquia. The General Secretary reported that the two colloquia (of Commission 36 and Commission 37) recently held at Herstmonceux, had been very successful. Approval was given to his proposal to allocate a sum of about \$ 150 to provide copies of the proceedings of the Colloquium on Stellar Atmospheres (Commission 36) for distribution to participants. Only a small part of the grant of \$ 500 for the colloquium on Stellar Clusters had been spent. It was noted that the colloquium on the Moon, proposed by Commissions 16 and 17, would not now take place.

The General Secretary suggested that the Executive Committee might give more formal recognition to such colloquia, and Resolution No. 4 (Distinction between Colloquia and Symposia) was formally adopted.

10. Publication of the proceedings of Symposia. The General Secretary presented a progress report on the publication of the proceedings of symposia. He suggested that the Executive Committee should seriously consider a more uniform publication procedure along the following lines: where possible, particularly for colloquia and smaller symposia, publish in a non-commercial scientific publication; in other cases, allow a single publisher to publish at his own risk, subject to certain safeguards, particularly in that the published price should not exceed that agreed by the Union.

There was general concurrence in these suggestions, but no definite agreement was reached; the General Secretary was asked to investigate the whole question in further detail, in consultation with the Assistant General Secretary. Publication policy, as it affected the Scientific Unions as a whole, would be discussed by the Executive Board of ICSU at its meeting in October.

11. Space experiments with potentially undesirable effects on astronomy. The General Secretary presented a report on the actions he had taken in regard to Project West Ford and the high atmosphere experimental nuclear explosions; in the latter case, he had formally written to the Scientific Advisor to the President of the United States, reiterating the position of the IAU as stated in the Berkeley Resolution No. 1.

He also reported on the parallel action taken by ICSU and COSPAR.

Consideration was given as to whether the West Ford Committee should be continued in its present form; it was agreed that no change should be made at the present time.

It was generally agreed that it would be desirable to re-state the agreed policy of the Union and Resolution No. 5 (Space Experiments with potentially undesirable effects on Astronomical Observations) was adopted.

The General Secretary was requested to ensure that Resolution No. 5 was given the widest circulation, including copies to the press.

12. International Polar Motion Service. The General Secretary reported on the position arising from the death of Dr. T. Hattori, Director of the Central Bureau of the IPMS. The Science Council of Japan had expressed a wish to continue to provide for the Central Bureau at Mizusawa and had proposed Dr. S. Yumi as Director. Unfortunately, the President of Commission 19 (Dr. B. Guinot) and other French astronomers, have expressed grave doubts as to the experience and competence of Dr. Yumi as Director of the Bureau. Further, the Académie des Sciences had formally offered to provide for the Central Bureau to be set up in Paris, with Dr. Guinot as Director.

The General Secretary summarized the views expressed by the members of the provisional Advisory Council for the IPMS, as well as those of other astronomers whom he had consulted. He pointed out that, unfortunately, there was still no properly constituted Advisory Council, but that he was hoping that this position would shortly be rectified.

The Executive Committee expressed the view that it was not practicable to consider, at this stage, the transfer of the Central Bureau of the IPMS from Mizusawa. It accordingly expressed its gratitude to the Science Council of Japan, and accepted its offer to continue to house the Bureau. In regard to the position of Director, the Executive Committee agreed to recommend that Dr. Yumi be asked to serve as Acting Director until the next General Assembly of the Union in 1964, when his position could be reviewed in the light of his published work and the way in which the Bureau had been conducted.

The Executive Committee expressed its gratitude to the Académie des Sciences for its offer and regretted that it was not in a position to recommend acceptance of this offer at the present time.

13. Bibliography of Astronomy, 1881-1898. The Executive Committee considered a report from the General Secretary regarding the lack of progress with the completion of the Bibliography of Astronomy for the years 1881 to 1898. He expressed his view that the present state of the work was such that completion was most unlikely with the present organization. The Executive Committee expressed concern that progress was so poor, especially as so much effort had been put into the project in some countries. It was agreed that there should be no question of publication at the present time, and it was suggested that an approach might be made to the staff of the Astronomische Jahresbericht (at the Astronomisches Rechen-Institut in Heidelberg) with a view towards obtaining expert assistance in expediting completion.

14. Grant to Commission 16. It was agreed to make a further grant of \$1,250 (making a total of \$2,000) to the President of Commission 16 (Dr. A. Dollfus) towards the expenses of the "Centres Internationaux de Documentation Photographique" at Meudon. The General Secretary explained that the work of collecting photographs of the planets is well in progress, and that Dr. Dollfus is doing an excellent job with enthusiasm and efficiency.

15. Distribution List. The Executive Committee had already decided (see Item 5 (f)) to invite institutions on the Distribution List to subscribe towards the cost of supplying them with IAU publications.

It was agreed that, in these circumstances, it would be reasonable to accept applications for additions to the Distribution List rather more readily than in the past; however, the List would continue to be restricted to astronomical observatories and institutions. Commercial institutions would be expected to purchase IAU publications through the usual channels at the usual prices.

16. The future structure of the ICSU. The Executive Committee gave consideration to the report prepared by the special committee of ICSU on the future structure of the ICSU. Members of the Executive Committee had, in general, no definite views on the report, but were inclined to consider that the inclusion of representatives of National Members on the new Executive Board would be an advantage. However, it was noted that no reference was made in the report to the aims of the ICSU and it was suggested to the Union's representatives on the Executive Board (the President and General Secretary) that they should call attention to this important omission.

17. Agenda for the ICSU Executive Board. The General Secretary stated that it was a long-established custom for the Executive Committee to consider the agenda for the Executive Board of the ICSU; he had circulated extracts from the agenda of the meeting to be held in Prague on 16-22 October 1962, together with various comments.

The members of the Executive Committee noted that the great majority of the items had little direct relevance to the Union, but authorized their representatives to take such action at the meeting as they considered desirable.

18. Comité International de Géophysique and the International Year of the Quiet Sun. The Executive Committee considered a report from the Secretary General of the CIG on the meeting in Paris on 22-24 March 1962. This was supplemented by a verbal report by Dr. Pecker who was present both at that meeting and at the First Meeting of the IQSY.

These reports were accepted by the Executive Committee as satisfactory. It was agreed that the IAU should give the utmost support to the IQSY and, on the written suggestion of Dr. Ellison, formally adopted Resolution No. 6 (The International Quiet Sun Year).

The recommendation from CIG that the Union should consider organizing a symposium on the results obtained from the IGY, in conjunction with the IAU General Assembly in 1964, was not accepted; it was thought that the astronomical results would be amply covered in the large symposium on the "Results of the IGY" organized by the U. S. National Academy of Sciences in conjunction with the IUGG General Assembly in Los Angeles in August 1963, and in the meetings organized by the individual Commissions of the Union.

The Executive Committee expressed the view that the IAU should accept no responsibility, either directly or through CIG, for the Upper Mantle Project and the World Magnetic Survey.

19. Relations with COSPAR. The General Secretary reported on the correspondence he had received from the President of COSPAR (Professor M. Roy) regarding the relationship between the Union and COSPAR, with particular reference to the responsibility of the organization of symposia

covering fields of mutual interest. COSPAR had proposed that the IAU should examine its programme of symposia for 1963 and consider to what extent they could be co-sponsored by COSPAR, or merged into the Fourth International Space Science Symposium to be held in Warsaw in June 1963. The Executive Committee expressed its desire that the Union should co-operate to the fullest extent with COSPAR and instructed the General Secretary to provide the President of COSPAR with the earliest and fullest information regarding the Union's plans for symposia.

In reply to the specific invitation to participate in the organization of that part of the Fourth COSPAR Symposium to be devoted to the subject of "Moon, Mars and Venus", it was agreed that the Union should participate; the Presidents of Commissions 16 (Dr. A. Dollfus) and 44 (Professor L. Goldberg) were nominated to serve on the Organizing Committee should such representatives be required (see Item 8 (c)).

It was also agreed in principle that, as suggested by COSPAR, the following procedure should be followed in relation to future symposia covering fields of mutual interest: either (a) COSPAR should participate with the IAU in an IAU Symposium; or (b) the IAU should jointly sponsor a day (or more) at one of the annual International Space Science Symposia organized by COSPAR.

The General Secretary also reported briefly on the correspondence he had received from the Presidents of Commissions 16 and 44, and from the Union's representative on COSPAR, Professor H. C. van de Hulst. Professor van de Hulst called the attention of the Executive Committee to the danger that the Union was not making adequate provision for new developments in astronomy, with the danger that other organizations (e.g. COSPAR) would assume responsibility for these developments that should more properly, and possibly more competently, be handled by the Union. In particular, he suggested that the Union should consider the formation of a Commission on Interplanetary Matter.

The Executive Committee suggested that, before a new Commission or Commissions were formed, Presidents of existing Commissions should be consulted as to whether the subject matter of their Commissions could be extended to include these expanding fields of research. The General Secretary said that he would consult with Presidents of Commissions, and others, with a view to preparing a full report for consideration by the Executive Committee at its next meeting.

The General Secretary was authorized to communicate the general views of the Committee to the President of COSPAR and to co-operate to the fullest extent. However, it was suggested that a certain amount of duplication, and overlap, could be avoided if the annual International Space Science Symposia organized by COSPAR were restricted to specific topics rather than being as fully comprehensive as in the past.

20. Inter-Union Committees. The General Secretary reported briefly on the present status of the Inter-Union Committees in which the Union is represented. He reported that the Inter-Union Committees on Solar and Terrestrial



Relationships, on Spectroscopy, and on Frequency Allocations for Radio Astronomy and Space Science, were all well-established and working well; the Inter-Union Committee on Solar and Terrestrial Relationships was planning to hold a scientific meeting in Tokyo on 4-5 September 1963, in conjunction with the General Assembly of URSI. However, there appeared to be some misunderstanding in regard to the Union's representation on the Inter-Union Committee on the Ionosphere, but he hoped that this matter would be clarified at the meeting of the Executive Board of the ICSU in October.

In connection with the Inter-Union Committee on Frequency Allocations for Radio Astronomy and Space Science, Professor Oort appealed to members of the Executive Committee to do everything they could to persuade their respective national administrations to agree to request that the subject of "Radio Astronomy" be included in the agenda for the Extraordinary Administrative Radio Conference of I.T.U. to be held in 1963. He pointed out that, owing to insufficient support from national administrations, the request had provisionally been declined. There would be one future opportunity for re-consideration and it was essential that every effort be made, through the national administrations, to have "Radio Astronomy" included in the agenda.

21. Thirteenth General Assembly, 1967. The Executive Committee gave preliminary consideration to the location of the thirteenth General Assembly in 1967. Formal invitations have been received from Argentina, Australia, and Czechoslovakia, and the Royal Society had expressed a wish that a General Assembly of the Union be held in the United Kingdom in the near future. Dr. Haro emphasized the importance that would be attached to a General Assembly of the Union being held in South America, and Professor Sternberk reiterated his desire that the Union should give Czechoslovakia the honour of holding a General Assembly in Prague. No decision was made, but the discussion was noted as a guide to the Special Nominating Committee.

22. Twenty-fourth Meeting of the Executive Committee. The General Secretary reported that invitations had been received from: (a) the Astronomer Royal to hold the meeting at the Royal Greenwich Observatory, Herstmonceux; and (b) Professor P. Swings to hold the meeting at the University of Liège.

It was agreed to accept the invitation from Professor Swings to hold the meeting in Liège, at a time, probably early in July 1963, convenient to him. At the same time, many members of the Executive Committee expressed a wish to visit the Royal Greenwich Observatory and it was suggested that it might be possible to arrange such a visit either immediately before or immediately after the meeting in Liège.

23. Representation at various meetings. The Executive Committee decided: (a) not to accept the invitations from the International Astronautical Federation to be represented at its thirteenth International Astronautical Congress and Plenary Session in Varna, Bulgaria, 23-29 September 1962, or at its Symposium on "Basic Environmental Problems of Man in Space" in Paris, 29 October to 2 November 1962; (b) to delegate full responsibility for the interests of the IAU at the

Plenary Assembly of C.C.I.R. in New Dehli, January 1963, to IUCAF;

(c) to request Dr. J. F. Denisse to represent the Union at the fourteenth General Assembly of URSI in Tokyo, 9-20 September 1963; and

(d) to request Dr. A. Danjon, or failing him, Dr. H. Friedman, to represent the IAU at the General Assembly of IUGG in Berkeley, 15-30 August 1963.

In all cases, the General Secretary was authorized to make a final decision as to the representatives if those named were unable to accept.

24. U.S.S.R. Expedition to Southern Hemisphere. At the invitation of the President, the President of the Astronomical Council of the Academy of Sciences of the U.S.S.R., Professor A. A. Mikhailov, spoke briefly about Resolution No. 7, a draft of which had been previously circulated. Dr. Stoy emphasized the great importance of this expedition to fundamental astronomy, but requested that the Resolution should make a reference to the international project of which it forms a part. Resolution No. 7 (Astronomical observations in the Southern Hemisphere), amended in this sense, was unanimously adopted.

25. Aids to the organization of astronomy in astronomically underdeveloped countries. Dr. Haro raised the whole question of what the Union could do to assist the astronomically smaller countries in training astronomers in the efficient use of equipment, and possibly in the transfer of equipment not being fully used in the larger countries. He referred particularly to the problems of some of the South American countries and emphasized that there was a dual problem: in some cases equipment was available but trained astronomers were not; in other cases, equipment was required both for training and for observation.

After a full discussion of this important topic, the General Secretary suggested that Commission 38 (Exchange of Astronomers) should be invited to extend its activities to the centralization of information and the provision of advice in respect of

(a) the training of students of astronomy in countries other than their own, both at post-graduate and at post-doctoral level;

(b) the efficient use, perhaps in other countries, of equipment not being fully used in the larger countries; and

(c) the efficient use of equipment available in some of the smaller countries but which is not being fully used because of lack of trained staff.

The General Secretary would also consult with other astronomers and prepare recommendations for discussion at the next meeting of the Executive Committee. In particular, he was requested to take positive action in regard to the full utilization of the equipment at the Cagigal Observatory in Caracas, Venezuela, and the preservation of equipment and records at the Observatoire d'Alger at Bouzaréa.

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At the conclusion of the meeting the General Secretary expressed the thanks of the Executive Committee to the President of the Academy of Sciences of the Armenian S.S.R. for having provided such excellent accommodation for the meeting, and for the generous hospitality that all members had received.

Royal Greenwich Observatory  
Herstmonceux

D. H. Sadler  
General Secretary

October 1962.