

INTERNATIONAL ASTRONOMICAL UNION

Report on the meetings of the Executive Committee, Prague, 6, 7 and 8 July 1960.

The meetings were held in the building of the Academy of Sciences in Prague as follows:

Wednesday 6 July: 9.30 a.m. - 12.30 p.m. and 2.30 p.m. - 5 p.m.

Thursday 7 July: 9.30 a.m. - 12.00 noon.

Friday 8 July: 9.00 a.m. - 12.30 p.m. and 2.30 p.m. - 5.30 p.m.

The following were present: J. H. Oort (President); L. Goldberg, O. Heckmann, B. V. Kukarkin, R. M. Petrie, B. Sternberk, R. H. Stoy (Vice-Presidents); D. H. Sadler (General Secretary); A. Danjon (former President); P. Th. Oosterhoff (former General Secretary). P. G. Kulikovsky attended the meeting as interpreter to Dr. Kukarkin and Miss Nel Splinter attended as Assistant Secretary. (Professor Danjon was unable to attend the meetings on Wednesday 6 July).

Introductory note: The following report is intended primarily as a record of the decisions taken by the Executive Committee at the above meeting; 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 General Secretary's report and the report to the Executive Committee of the Committee on the Grouping and Membership of Commissions are not included in this Report; they will however be attached to the copy of the Report kept in the archives of the Union.

Agenda

A. Administration and Policy

1. President's opening remarks.
2. General Secretary's report.
3. Financial statement.
4. Special Nominating Committee.
5. Grouping and Membership of Commissions.
6. Standards for candidature for membership of the Union.
7. Procedure at General Assemblies and Resolutions Committee.
8. Committee on the revision of the Statutes and By-Laws
9. Publications.
10. Distribution of publications.

B. General Assembly, Berkeley, August 1961

11. Plans for the Eleventh General Assembly of the Union.
12. Provisional time-table of meetings, Discourses, Symposia etc.
13. Subjects and speakers for the Invited Discourses.
14. Arrangements for Symposia Nos. 15, 16, 17.
15. Travel arrangements.

C. Scientific and technical matters

16. Symposia in 1960.
17. Future Symposia (after 1961).
- 18a. Bibliography of Astronomy, 1881-1898.
- 18b. Minor Planet Center.

D. Co-operation with ICSU, FAGS and other Unions

19. Inter-Union Commission on Solar and Terrestrial Relationships.
20. Inter-Union Committee on the Ionosphere.
21. Federation of Astronomical and Geophysical Permanent Services.
22. Ad Hoc Committee on the definition of fields of interest and responsibilities of IAU, URSI and COSPAR.
23. Fondation Internationale du Pic-du-Midi.
24. Other Business.

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1. President's opening remarks. In his opening remarks the President welcomed those present and expressed his gratitude to the Czechoslovak Academy of Sciences for inviting the Executive Committee to meet in Prague. Professor Sternberk, on behalf of the Czechoslovak Academy of Sciences, then conveyed the greetings of Czechoslovak scientists to the members of the Executive Committee and expressed the hope that the meeting would be successful and that the members would retain a pleasant memory of their visit to Prague. The President thanked Professor Sternberk for his kind words.

Although it has not been customary at meetings of the Executive Committee to announce the death of members, the President made an exception on this occasion and mentioned those members who had died since the last meeting of the Executive Committee; many of the names had already been announced in the Information Bulletins. He referred especially to the great loss that Astronomy had suffered by the death of W. Baade.

The President finally explained that Professor Danjon had been prevented from attending on the first day of the meetings because of the cancellation of air services.

2. General Secretary's report. The General Secretary presented his report to the meeting. He briefly reviewed the administrative work of the Union and suggested several ways in which improvements could be made; in particular he suggested that the administration would be simplified by obtaining, as soon as possible, formal agreements by the new Executive Committee to provisional decisions taken by the outgoing Executive Committee. He therefore suggested that a meeting of the new Executive Committee should be held immediately following the General Assembly, and this was agreed. It was also agreed that the new Executive Committee should decide whether to hold a meeting each year or not. It was further suggested that, in order to provide more time for discussions of important matters, minor or routine matters should be dealt with by correspondence, even though they arise near the time of a meeting.

The General Secretary was authorized to pay, as necessary, for editorial work on the Draft Reports.

The Executive Committee undertook to encourage Presidents of Commissions and others to make greater use of the Information Bulletins for announcements and for scientific reports of general interest.

The draft "Notes for the Guidance of IAU representatives on Special Committees, to Congresses, etc." (see Appendix A) was approved. Attention was called to the desirability of recording the names of all such representatives and of obtaining from them short reports for inclusion in Information Bulletins and also in the History of the Union.

In connection with the withdrawal of the People's Republic of China from adherence to the Union it was agreed that Chinese observatories should be retained on the Distribution List.

The text of the congratulatory address to the Royal Society of London on the occasion of its Tercentenary was approved.

3. Financial statement. With his report the General Secretary had circulated a copy of a letter to members of the Advisory Finance Committee, bringing up-to-date the budget of income and expenditure for the current period of three years. He had asked the Advisory Finance Committee for advice on the sum to be set aside towards the expenses of the 11th General Assembly. The Executive Committee agreed to the recommendation that a sum of \$ 20,000 should be allocated for this purpose. The General Secretary was given discretion to increase this sum up to \$ 25,000 if necessary.

It was agreed that the accounts presented to the next General Assembly should be in a simplified form; the accounts for all three years and for all four currencies would be presented in one single account and in one single currency with amounts rounded off to, say, the nearest dollar. It was also agreed that the accounts should be expressed in dollars with, however, a clear statement of the relation of the dollar to the gold franc and the other currencies. The General Secretary emphasized that the detailed accounts would be audited by the professional accountant and presented to the Finance Committee.

The Executive Committee also adopted a recommendation that the Finance Committee prepare, for consideration by the General Assembly, a three-year budget on the basis of the total estimated income of the Union. This budget would include provision for unforeseen contingencies. Owing to the fact that no firm estimate could be made of the ICSU grant from the UNESCO subvention, this budget would not be published in the Transactions of the Union.

It was agreed that the President of Commission 23 be authorized to allocate a sum of \$ 2500 from the money voted for the Carte du Ciel towards the printing costs of the two Mexican zones of the Astrographic Catalogues (-10° and -11°). The Executive Committee expressed its gratitude to Mrs. Paris Pismish de Recillas for the energetic work that she was putting into the completion of the Mexican zones.

The General Secretary recommended that a sum of 1250 N.F. be allocated to the organizers of the informal colloquium of Sub-Commission 29a on "The Profiles of Stellar Spectral Lines" for general expenses and for supply of reprints of the proceedings to participants; this was agreed.

The General Secretary was authorized to:

- a) make a small grant from the budget for the secretariat towards the travelling expenses of members of the working group on Site Testing to facilitate exchange of views, preparatory to submitting a report to the Executive Committee. The President said that it was more usual for such small sums to be found from other sources;
- b) purchase reprints of the papers prepared by Sub-Commission 33b on "The Determination of the Galactic Pole and Galactic Longitudes" to be published in the M.N.R.A.S., for distribution to members of the Sub-Commission and to Institutions on the Distribution List.

4. Special Nominating Committee. The President summarized the constitution and work of the Special Nominating Committee, and presented a preliminary report of its recommendations; he was not yet in a position to make a definitive report, but promised that this would be circulated well before the next General Assembly.

5. Grouping and Membership of Commissions.

a) Membership of Commissions. The Executive Committee gave lengthy consideration to the report of the Committee on the Grouping and Membership of Commissions, in the light of the views of Presidents of Commissions. It was noted that, although a large proportion of Presidents had signified their agreement in principle to the proposals of the committee, there were several objections to the proposed drastic reduction in the number of members of Commissions. The Executive Committee recognized the great difficulty in meeting the two apparently incompatible requirements of efficiency of organization and avoidance of disappointment to members who wished to belong to Commissions. After a long discussion, in which

various alternative suggestions were considered, it was agreed that: members of the Union should in future be generally free to choose to which Commissions they wish to belong; and that each Commission should appoint a small organizing committee to assist its President and Vice-President in the organization of the work of the Commission. The decision of the Executive Committee can, in general terms, be expressed as:

- 1) Members of the Union are to be invited to state to which Commissions they wish to belong.
- 2) The Executive Committee is to appoint a President and a Vice-President for each Commission.
- 3) The members of the Commission are to appoint a small organizing committee to assist the President in the direction of the work of the Commission.
- 4) Members of the Union are also to be invited to state the techniques in which they are currently engaged.

The General Secretary pointed out that these decisions would require much detailed consideration in respect of their practical application, and would probably involve a change in the By-Laws. In particular the present By-Laws call for the appointment of Commissions by the General Assembly, which would hardly be suitable in the future, and the co-option of members by a two-thirds majority of members of the Commission, which again would hardly be suitable. The General Secretary, in consultation with the special committee for the revision of the Statutes and By-Laws, was asked to propose details for the practical application of the above decisions.

(The General Secretary's proposals, not yet agreed to by the committee on the By-Laws, are attached to this Report (Appendix B); if approved by the Executive Committee they will form part of this Report).

In particular the Committee approved that "All members of the Union are to be invited to state to which Commissions they wish to belong; the only criterion should be the ability to make a contribution of value to the work of the Commission. Members will not normally be a member of more than three Commissions, and the Executive Committee may refuse to accept proposals that are obviously unsuitable".

Consideration was given to a suggestion that a small preparatory committee of the Nominating Committee should assist the General Secretary in collating the proposals for the organizing committees of the Commissions. This was not agreed, but it was suggested that the President of the Nominating Committee should be nominated as soon as national representatives were known and that he should assist the General Secretary in this task.

b) Grouping of Commissions. The Executive Committee considered the sections of the committee's report regarding the grouping of commissions.

It was thought that such a grouping would have considerable advantages, though minor criticisms were made of the suggested classification and individual groupings. However, it was agreed that Commissions should be grouped in this way only for the convenience of the General Secretary in encouraging joint meetings of Commissions and in allocating times for Commission meetings during the General Assembly; the letters indicating the groups are not to be added to the Commission numbers, as suggested in the report. The suggestion that the Executive Committee should appoint group presidents to coordinate the work of the Commissions in a group, particularly in regard to the holding of joint meetings during General Assemblies, was not approved; it was left to the General Secretary to consult with Presidents and to encourage joint meetings wherever possible.

c) Classification of Members. The decisions concerning membership of Commissions make unnecessary any classification of members under subjects of research (as suggested in the committee's report); members of the Union will now be classified, in so far as subjects of interest are concerned, by the Commissions to which they belong. It is, however, not proposed to revert to the old system of printing after a member's name the numbers of the Commissions to which he belongs. Although there will be some duplication with the subjects of Commissions, it was agreed that members should be asked to state the techniques in which they are interested from among the following list:

- a) Chronometry.
- b) Astrometric techniques.
- c) Observations from outside the Earth's atmosphere.
- d) Photometry.
- e) Spectrography.
- f) Radio Astronomy.
- g) Physics of particles.
- h) Theoretical physics.
- i) Numerical analysis.

- Lists of members under each technique would be printed, possibly in an Information Bulletin.

d) Sub-Commissions. It was agreed that Sub-Commissions should in general become sub-committees or working groups of the main Commissions, with membership appointed by the Commissions themselves. In all respects, including the preparation of reports, the sub-committees would now be responsible to the organizing committees of the main Commissions. The only exception to this general rule is Sub-Commission 29a on "The Theory of Stellar Atmospheres", which is to become a separate Commission.

e) The status of the administrative Commissions such as 3, 5, 6 and 38, was left to the General Secretary (see item No. 9).

6. Standards for candidature for membership of the Union. The Executive Committee considered a draft memorandum by the General Secretary intended as a guide to National Committees and Adhering Organizations on the standards of candidature for membership of the Union. The amended memorandum, as approved by the Committee, is attached as Appendix C. It was agreed that the contents of this memorandum should not be published in an Information Bulletin.

7. Procedure at General Assemblies and Resolutions Committee. At its last meeting the Executive Committee agreed that the possibility of setting up a Resolutions Committee should not be overlooked. It now agreed that a Resolutions Committee should be instituted to: "Consider all resolutions submitted by Commissions without the five month's notice required by By-Law No. 5 and to report to the General Assembly which resolutions should be admitted for consideration under the provisions of By-Law No. 4." It was emphasized that the Resolutions Committee would be concerned only with the nature, as contrasted to the substance, of the resolutions under consideration. With this limited work it was thought that the Committee would not be overburdened.

The following were suggested as members of the Resolutions Committee for submission to the General Assembly: O. Struve or P. Swings, A. A. Mikhailov and the General Secretary.

8. Committee on the revision of the Statutes and By-Laws. Partly because the proposed revision of the Commission structure would involve changes in the By-Laws, the committee had not as yet made a detailed revision of the By-Laws. It had, however, reached substantial agreement on the revision of the Statutes. Professor Danjon summarized briefly the principal deficiencies of the present text, namely:

- the imprecise wording;
- the omission of a definition of the Executive Committee;
- the omission of a definition of members of the Union.

The Executive Committee agreed with the suggested amendments. An agreed version of the revised Statutes is attached as Appendix D. The General Secretary stated that it will be necessary to obtain the agreement of the Executive Committee to the revised form of the By-Laws before the end of 1960, in order to allow formal notice of the changes to be given to Adhering Organizations.

9. Publications.

a) Control over standard of publications sponsored by the Union. The Committee gave consideration to the question of control over the standard of publications sponsored by the Union or aided by grants from the Union. It was agreed that the most important factors were to ensure a reasonably high standard of presentation and adequate availability.

The difficulties of ensuring this were emphasized but, as a first step, the Committee approved the text of a memorandum (copy attached as Appendix E) to be sent out with all grants made towards publications.

Special attention was directed to the deficiencies in the publication "Les Observatoires Astronomiques et les Astronomes", which has been aided by a grant from the Union. It was agreed that the General Secretary should write to Professor Bourgeois, pointing out the deficiencies to which the Executive Committee had drawn attention, emphasizing that an up-to-date and accurate list of Observatories (and of Astronomers) was most desirable, and offering to give every assistance in the preparation of a revised and correct edition or, alternatively, to make other arrangements for a new edition if the Belgian astronomers did not feel able to undertake it.

The General Secretary pointed out that it is not practicable for such work to be undertaken by the General Secretariat and that, if Professor Bourgeois was unable to produce a revised edition, the work would have to be referred either to a Commission or a specially appointed Committee.

b) New printing contract for Transactions IAU. The General Secretary reported on the steps he had taken to obtain tenders for a new printing contract for the Transactions. Seven reasonably satisfactory tenders had been received for printing and three offers had been made to undertake publication as well, from: Pergamon Press Ltd., Academic Press Inc., and on behalf of Oliver and Boyd Ltd. The General Secretary was authorized to use his judgement as to the award of the printing contract, taking all factors into consideration, and to accept an offer to publish from Academic Press Inc. or Oliver and Boyd Ltd. if suitable arrangements could be made.

c) Division of the Transactions into two volumes. The General Secretary reported that the suggestion that the Transactions should be divided into two volumes: A. Report on the State of Astronomy: B. Proceedings of the General Assembly, had been generally welcomed by members of the Executive Committee and by Presidents of Commissions. However, there had been some criticism of the suggestion that members of the Union should receive a proof copy only of Volume A. It was suggested that the duplicate distribution of Volume A to members of the Union (in the form of a proof copy before the General Assembly and a bound copy afterwards) could be avoided by speeding up the printing of Volume A, so that the final volume could be distributed before the General Assembly. It was agreed that this was probably the best solution, but that it was impracticable for Volume XI in view of the short time available and the new printing contract. For Transactions Volume XI it was therefore agreed that the Draft Reports should be circulated in proof in the usual way and that the Transactions should be printed in two volumes (A and B as above), both of which should be distributed free to members.

The decision as to whether reports of administrative Commissions should be included in Volume A or Volume B was left to the General Secretary.

d) Publication of Symposia. The General Secretary reported on the publication of the proceedings of IAU Symposia in current scientific journals and referred briefly to the arrangements being made in regard to Symposia Nos. 12 and 13. No arrangements had yet been made for Symposia Nos. 14, 15, 16 and 17. The Executive Committee noted and approved the memorandum drawn up by the General Secretary for the advice of editors of Symposia and the information of editors of the journals.

10. Distribution.

a) Consideration of policy. Consideration was given to the policy of distributing publications (other than the Transactions) to institutions on the Distribution List. The By-Laws leave the decision to the Executive Committee and the current practice is for all formal publications of the Union to be distributed free to all institutions. Two points of view were put forward: Firstly, that the continuation of the present policy, with the possibility of an increased Distribution List, would inevitably lead to an increase in the unit of subscription; Secondly, that the wide dissemination of publications to astronomical institutions in all countries is one of the principal methods by which the Union can achieve its objects.

The General Secretary pointed out that the withdrawal of free distribution would involve complicated administrative problems for the secretariat and, to some extent, for each individual institute. In answer to objections towards raising the unit of subscription, it was pointed out that an increase might be necessary for other reasons in the near future.

It was eventually agreed to continue the present policy of free distribution.

b) Revision of the Distribution List. The Executive Committee considered the revision of the Distribution List in the light of the replies received from adhering organizations to a request to revise the list of institutions in their countries. The General Secretary reported that if all the additions were accepted the number on the list would be increased from 223 to about 260. It was agreed to accept these additions, but the General Secretary was given discretion to omit non-astronomical institutions that were given low priority, national libraries, and adhering organizations themselves unless specially interested in Astronomy.

B. General Assembly, Berkeley, August 1961.

11. Plans for the Eleventh General Assembly of the Union. The General Secretary briefly described the provisional arrangements agreed with the U.S. organizing committee for the 11th General Assembly to be held on the Berkeley campus of the University of California from 15 to 24 August 1961. It was agreed that the arrangements so far made were entirely satisfactory.

Consideration was given to a reasonable restriction on the number of invitations issued by the President to non-members of the Union. It was agreed that adhering organizations should be asked to restrict nominations for such invitations to:

- i) astronomers who are being proposed for membership of the Union;
- ii) young astronomers, potential members of the Union, one or two of whom may be proposed as recipients of an IAU grant towards travelling expenses;
- iii) outstanding scientists in other fields, with astronomical interests covering a wide range.

The General Secretary pointed out that there had been much criticism at previous General Assemblies of the increasing number of accompanying persons and he suggested that it would be reasonable to request that, normally, no member should register more than one accompanying person. In this connection it was pointed out that children under 14 years of age could not be accommodated in the Halls of Residence on the campus. It was agreed to consult with the U.S. organizing committee as to whether any such limitation should be included in the invitations.

The question of a registration fee for non-members (and even for members) was discussed: the Executive Committee had no objection to such a fee, but thought that a decision should be taken by the U.S. organizing committee.

Consideration was given to the appointment of a lecturer to give a public lecture on Astronomy over the local radio and TV network at the time of the General Assembly. It was agreed that the details of such a lecture and the choice of speaker should be left to the U.S. organizing committee in consultation with the General Secretary. The Union would pay a suitable fee.

12. Time-table. A provisional time-table was approved. This allowed ample time for informal meetings and discussions. The General Secretary reported briefly on the provisional plans made by the U.S. organizing committee for excursions, trips and social engagements for delegates and accompanying persons.

The importance of early decisions on time-tables, travelling arrangements, and numbers attending was stressed in relation to the difficulties of arranging excursions, when in several cases accommodation had to be reserved nearly 12 months in advance.

Joint Discussions. In the time-table provisions had been made for three Joint Discussions. The General Secretary pointed out that these Joint Discussions would be organized by the Commissions most directly concerned and will largely have the character of joint meetings of Commissions: they will, however, have rather greater direction, cohesion and formality than joint meetings of Commissions, and reports of the proceedings can be included in the Transactions.

The following suggestions for subjects had already been made:

- a) Astrometry.
- b) Stellar Motions and Stellar Dynamics.
- c) Flare and Prominence Spectra.
- d) Instrumentation.

However, it was agreed that a final decision should be left until after further consultation with Presidents of Commissions. It was also agreed that a fourth Joint Discussion could be allowed if it could be held at the same time as one of the others.

13. Invited Discourses. It was agreed to have three Invited Discourses as follows:

1. "Astronomical Observations from Artificial Satellites and Rockets". Professor J. A. van Allen had already accepted a provisional invitation to contribute towards this Invited Discourse, but no reply had yet been received from Professor L. I. Sedov. It was agreed that, if Professor Sedov was unable to share the Discourse, Professor van Allen should be invited to give it alone. (Dr. Kukarkin promised to get in touch with Professor Sedov.)
2. "Problems of Extra-Galactic Research" by V. A. Ambartsumian. If for any reason Professor Ambartsumian should be unable to undertake this, Dr. N. U. Mayall was suggested as a substitute.
3. "Stellar Evolution" by M. Schwarzschild. If Professor Schwarzschild should be unable to accept an invitation to give such a Discourse, F. Hoyle and B. Strömngren were suggested as alternatives.

14. Symposia Nos. 15, 16 and 17.

No. 15 "Problems of Extra-Galactic Research". Professor Heckmann summarized the arrangements so far made and said that a provisional programme had already been drawn up. He had received a request for the Symposium to be deferred by one day so as not to clash with the (non-IAU) Symposium on Space Research. The Executive Committee thought it desirable to retain the dates of 9-11 August 1961, but left the decision to Professor Heckmann. It was agreed to invite A. D. Thackeray to join the organizing committee in the place of Dr. W. Baade. The Executive Committee was well pleased with the well-advanced plans for this important symposium.

No. 16 "The Solar Corona". The General Secretary reported that some difficulties had been met in forming a suitable organizing committee and that little progress appeared to have been made. It was proposed to hold the Symposium at Sacramento Peak immediately after the General Assembly on 24, 25 and 26 August 1961. (Subsequent to the meeting the General Secretary was informed that it was proposed to hold the Symposium at Cloudcroft near Sacramento Peak on 27-31 August; the circular giving this information, although dated 16 May 1960, did not reach the General Secretary until 12 July). It was agreed that Professor Danjon should discuss arrangements and programmes with Dr. Denisse and that Professor Goldberg should discuss them with Dr. Roberts.

No. 17 "Visual Double Stars". The General Secretary reported on the correspondence he had had with Professor van de Kamp, and said that he was a little disappointed with the tendency of the organizing committee to regard this Symposium as an extension of a meeting of Commission 26. It was agreed that the organizing committee should be encouraged to expand the scope of the symposium in order to bring in astronomers interested in the results as well as those interested in the observations. Professor Danjon and Dr. Petrie, both members of the organizing committee, agreed to put these points of view forward. It was also agreed that Professor van de Kamp should be asked to give, or to arrange for, a general introductory talk concerning the observations and application of the results to other branches of astronomy.

15. Travel arrangements. Professor Goldberg summarized the activities of the U.S. committee concerned with raising finances for the General Assembly. He hoped that there might eventually be a sum of the order of \$ 200,000 available to assist the travelling expenses of participants. He made it clear that certain sums were specially allocated towards the expenses of the Symposia. He also mentioned that a number of foreign astronomers would be invited to participate in a symposium on Space Research organized by the Douglas Aircraft Company on 9-10 August 1961; and that these would receive substantial grants.

A discussion took place on the advice to be given to the U.S. committee as to the method of allocating travel grants from such funds as become available. In general terms it was agreed that:

- 1) the travel expenses of participants in the Symposia should be paid from the funds available for those symposia;
- 2) (this was not specifically mentioned) grants should be made to Presidents of Commissions, not otherwise provided for as participants in the Symposia or from the IAU funds;
- 3) the General Secretary should endeavour to estimate the numbers likely to attend the General Assembly from each country, not otherwise provided for as participants in Symposia (including the Douglas Aircraft Symposium) or as Presidents of Commissions;
- 4) on the basis of the available funds the General Secretary, in consultation with the U.S. finance committee, should suggest an approximate sum to be made available to each adhering country;
- 5) each adhering organization should be informed that such an approximate sum would be available to assist with the travelling expenses of its nationals and requested to make a list of proposed recipients, subject to the condition that no recipient should receive more than \$ 300.

The suggestion was made that the U.S. finance committee might consider meeting the living expenses of all participants at the General Assembly.

It was agreed that it was essential: to encourage adhering organizations to obtain the maximum amount of financial support from their own countries; to prepare lists of participants to the Symposia as soon as possible; and, generally, to progress arrangements so as to provide adhering organizations and members with the maximum information at the earliest possible time.

Consideration was given to the appointment of a small committee to assist the U.S. finance committee. It was decided not to do this, but to ask the General Secretary to consult the President if he had difficulty in interpreting the wishes of the Executive Committee when advising the U.S. finance committee.

The General Secretary reported briefly on the correspondence he had had with Airlines and Travel Agencies regarding the possibility of organizing charter flights across the Atlantic in connection with the General Assembly. The organizational and administrative difficulties would be considerable, but the potential saving in fares might be as much as 50% provided a large aircraft was used to full capacity. In view of this potential saving the General Secretary was asked to proceed with provisional arrangements for charter flights. It was again emphasized that members were unwilling to state definitely that they wished to participate in such flights when the details were vague; the General Secretary in turn emphasized that it was impossible to make definite arrangements until the general level of requirements was known. It was agreed that a definite date should be set (about the end of 1960) by which a decision would be made as to whether a charter flight would be made or not. If undertaken, the General Secretary was instructed to cover the Union's liability by means of insurance. It was also suggested that adhering organizations should be asked to make block reservations, and to accept responsibility for them.

16. Symposia in 1960. The General Secretary reviewed the arrangements for Symposia Nos. 12, 13 and 14 to be held during 1960.

All arrangements in regard to No. 12 "Aerodynamical Phenomena in Stellar Atmospheres" were well advanced, but no definite decision had yet been made concerning the journal in which the proceedings would be published.

In regard to Symposium No. 13 "The Future of the International Latitude Service" all arrangements had been made; and the proceedings would be published in Bulletin Gécésique.

Agreement has now been received from the U.S.S.R. Academy of Sciences to hold Symposium No. 14 "The Moon" in the U.S.S.R.; arrangements for the Symposium will now proceed as quickly as possible. The organizing committee has already been agreed as: A. A. Mikhailov (chairman), Z. Kopal, K. Koziel, G. P. Kuiper, C. H. Mayer, A. A. Nefediev, J. Röscher. The General Secretary reminded the Committee that a sum of \$ 2500 was available for this Symposium. The Symposium will be held in Pulkovo, probably in October or November 1960.

17. Future Symposia (after 1961). Consideration was given to the choice of Symposia to be held in years after 1961. A list of possible subjects was drawn up and the General Secretary was asked to invite the named astronomer, associated with each suggestion, to prepare a broadly-outlined proposal for consideration by the Executive Committee at its meeting in August 1961. The subjects suggested and the astronomers named are as follows:

- 1) "The Galaxy and the Magellanic Clouds", to be held in the southern hemispheres. B. J. Bok.
In view of the fact that Sub-Commission 33a on "The coordination of Galactic Research" will be much concerned with this symposium, Dr. A. Blaauw should be asked to co-operate with Dr. Bok in making proposals.
- 2) "Radio Astronomy of the Galactic System". J. H. Oort.
- 3) "Stellar and Solar Magnetic Fields". A. B. Severny.
- 4) "Galactic Star Clusters in Galactic Research". H. Haffner.
- 5) "Spectral Classification and Multi-Colour Narrow-Band Photometry".
W. W. Morgan or B. Strömngren.

The President referred briefly to his correspondence with Dr. J. Sahade concerning a possible symposium in Argentina in 1960; a Symposium on "Stellar Evolution" will now be held (independently of the IAU) in November 1960.

The General Secretary referred to the proposal from the IUGG for the IAU to co-operate in the organization of a joint symposium on "Earth's Storms". The Union had agreed to nominate a member for the organizing committee, if requested, but not to contribute financially.

18a. Bibliography of Astronomy, 1881-1898. The General Secretary reported that the Belgian National Committee for Astronomy had decided that:

- 1) The Bibliography is to be printed by a photo-offset process, far less expensive than by letterpress.
- 2) The total cost, using this method, is estimated at about 500,000 Belgian francs, or 10,000 dollars.
- 3) To close the manuscript as on 31 December 1960, and to include any further contributions arriving after that date in a supplement.

This had the full support of Professor Martynov, the President of Commission 5.

It was agreed that the Executive Committee should accept these proposals, should confirm its previously expressed desire to assist in investigating potential sales and obtaining lists of subscribers, and

should authorize the payment of a subvention, up to a maximum of \$ 5000, to enable the printing to be proceeded with as quickly as possible. Some doubts were expressed as to the form of the Bibliography, and of the standard of content and presentation. The General Secretary said that all the preparatory work had already been done, but that he would nevertheless convey the sense of the discussion to Dr. A. Dermul, and would offer him every guidance and assistance he could in regard to presentation.

18b. Minor Planet Center. The President informed the Executive Committee that Dr. P. Herget had informed him that, in spite of considerable difficulties, he will endeavour to continue to operate the Minor Planet Center at Cincinnati. He went on to request all members of the Executive Committee to do their utmost to inform Dr. Herget of any suitable persons who might be willing to work at Cincinnati on this important work.

Dr. Kukarkin said that, should any further difficulties arise with the Minor Planet Center at Cincinnati, he thought Dr. M. F. Subbotin of the Institute of Theoretical Astronomy in Leningrad should be given the opportunity of making suggestions for the future continuance of the work. The General Secretary said he would write to Dr. Herget to express the appreciation of the Executive Committee of his devotion to the work of the Minor Planet Center.

19. Inter-Union Commission on Solar and Terrestrial Relationships. The General Secretary reported that the Bureau of ICSU had now agreed to the formation of an Inter-Union Commission on Solar and Terrestrial Relationships, with the IAU as Parent Union, and with the draft constitution already approved by the IAU (see Appendix F). This draft constitution had now been submitted for approval to IUGG and URSI. (Subsequent to the meeting URSI announced its complete agreement to the constitution).

The Allen Committee had recommended that the Commission should consist of 12 members and the General Secretary had indicated that this would be acceptable to the IAU. The Executive Committee then proceeded to nominate four members to represent the IAU on this Commission, together with alternative names to allow for the possibility of duplicate nominations by the other Unions. The four nominations are: C. W. Allen, J. F. Denisse, R. Giovanelli and E. N. Parker; with E. R. Mustel, R. Lüst, M. Waldmeier and B. Valniček as alternatives.

In view of the criticism that some at least of the work of the Commission would overlap with that of the "Comité International de Géophysique" (CIG), it was suggested that the first task of the Commission should be to consider its relationship with CIG.

20a. Inter-Union Committee on the Ionosphere. The General Secretary reported that he had asked Dr. J. L. Pawsey to represent the IAU on

an ad hoc committee, under the chairmanship of Sir Edward Appleton, to nominate the membership from the three Unions (URSI, IUGG and IAU) represented on the Committee. At the previous meeting of the Executive Committee R. N. Bracewell, V. G. Fesenkov and J. L. Pawsey had definitely been nominated but the fourth member had not been named. The General Secretary was asked to write to Dr. Pawsey suggesting the names of K. O. Kiepenheuer and J. E. Blamont for the fourth member and offering, if further guidance be needed, that he would write to Dr. Dieminger at the Max-Planck Institut für Physik und Astrophysik in München.

21. Federation of Astronomical and Geophysical Permanent Services. The General Secretary called attention to the section of the Report of the fifth meeting of the Council of FAGS concerning the delays in the publication of the Quarterly Bulletin on Solar Activity. Resolution No. 3 specifically called upon the IAU to take steps to expedite publication. It was agreed that the General Secretary should write firmly and frankly to Dr. Waldmeier, emphasizing the absolute necessity for rapid publication, and offering him such assistance as he could give.

Attention was also drawn to the different points of view expressed in the Report of the FAGS' meeting, which suggested that some data might be omitted from the Quarterly Bulletins, and in the report of the I.A.U. representative on CIG (M.A. Ellison), which suggested the possibility of extending the scope of the Quarterly Bulletins. It was agreed that the General Secretary should write to the President of Commission 10 (Dr. A. B. Severny) and request his views.

22. Ad Hoc Committee on the definition of fields of interest and responsibilities of IAU, URSI and COSPAR.

The President reported briefly on the constitution and work of a small ad hoc committee to define the relevant fields of interest and responsibilities of URSI, IAU and COSPAR, particularly in respect of the overlapping interest in Radio Astronomy. He said that he hoped that the committee would be able to draw up definitive proposals during the General Assembly of URSI in September 1960 and that these would then be formally communicated to the IAU for consideration and adoption.

He went on to say that one of the most important problems concerns the safeguarding of frequencies for Radio Astronomy, and he outlined his plans and suggested membership for a small working group on the reservation of wave lengths. He asked for, and received, the full support of the Executive Committee in forming such a group and in giving it full powers to act on behalf of the Union. He finally asked Dr. Kukarkin to be good enough to consult the U.S.S.R. Academy of Sciences regarding the nomination of a member from the Soviet Union to share in the work of the working group.

23. Fondation Internationale du Pic-du-Midi. The Executive Committee formally invited Professor A. Danjon to continue to represent the IAU on the Fondation Internationale du Pic-du-Midi; this Professor Danjon consented to do.

It was further agreed to make a grant of \$ 100 a year to the Fondation.

24. Other Business.

a) The General Secretary said that he had received a proposal from Dr. J. Kleczek recommending that the IAU sponsor a glossary of the terms used in all branches of Astronomy. It was agreed to refer this proposal to the President of Commission 5.

b) Professor Danjon, speaking in his capacity as IAU representative to the IUGG General Assembly, referred to the important decisions that might be taken regarding the future of the International Latitude Service. He suggested that he should request that a committee be appointed in Helsinki to collate the proposals from the joint IUGG/IAU Symposium No. 13 and to submit these proposals for the approval of the IUGG and IAU. The Executive Committee expressed its complete agreement.

In closing the meeting, the President renewed his thanks to the Czechoslovak Academy of Sciences and to Dr. Sternberk for their wonderful hospitality.

Royal Greenwich Observatory
Herstmonceux.

D. H. Sadler
General Secretary

July 1960.