

The President stated that this matter was not formally on the agenda for the General Assembly, and could only be discussed with the approval of the General Assembly. He asked the General Secretary to make a statement.

The General Secretary reported that the Executive Committee had received a letter from the Academia Sinica in Taipei, Taiwan, formally requesting that the question of the name used for their country in the proceedings of the Union be submitted to the General Assembly, as they do not approve of the resolution adopted by the Executive Committee. As this request was received too late for it to be placed on the circulated Agenda, in accord with the Statutes of the Union it could only be discussed provided a proposal to that effect was approved by one half of the votes of the countries represented at the General Assembly. The Executive Committee had, however, considered the matter and it recommended to the General Assembly that the matter be not discussed.

The Chairman then asked whether the representative of any country present wished to propose that this question be discussed; there being no demand for discussion, the meeting proceeded to the next business.

10. (b) On the recommendation of the Executive Committee the General Assembly agreed to refer the motion by the National Committee for Astronomy of Australia to Commissions 25 and 29.

11. *Resolutions by Commissions.* Again on the recommendation of the Executive Committee, the General Assembly agreed to refer the resolution by the President of Commission 19 to Commission 19, and the one by the President of Commission 41 to Commission 41.

The General Secretary then announced that all other items of agenda would be deferred until the next session, pending reports from the various Commissions and Committees.

The Chairman thanked the interpreters and the scrutineers of the ballot and formally adjourned the meeting at 16^h15^m.

FINAL SESSION

*Held on Thursday 24 August 1961 at 9^h15^m, in the main auditorium of
Wheeler Hall on the Berkeley Campus of the University of California.*

Professor J. H. OORT, President, in the chair.

3. (b) *Report of decisions taken by the Executive Committee.* In opening the second, and final, session of the General Assembly the President said that this was a convenient opportunity to inform the General Assembly of various decisions taken by the Executive Committee during its meetings in Berkeley. These decisions do not require the formal approval of the General Assembly.

He announced that the Executive Committee had accepted the applications for membership from the following countries, with the adhering organizations as stated:

BRAZIL: Conselho Nacional de Pesquisas, Rio de Janeiro.

NORTH KOREA: Academy of Sciences of the Popular Democratic Republic of Korea,
Pyongyang.

TURKEY: Turkish Astronomical Society, Istanbul.

The President said that he was very happy to welcome these three countries to membership of the Union, and he noted with pleasure that representatives of two of the countries were present at the General Assembly.

The President then informed the meeting that the Executive Committee, on the recommendation of Commission 5, had decided to terminate publication of the *Astronomical News Letters* as from 1 January 1962. The last number to be published would be 109. He called attention to the great services to Astronomy rendered by Professor V. Kourganoff, who had edited the *Astronomical News Letters* so efficiently since 1953, and the General Assembly agreed that a suitable message of thanks should be sent to Professor Kourganoff.

The President further announced that the Inter-Union Commission on Solar and Terrestrial Relationships (IUCSTR) was now formally constituted, with Professor C. W. Allen as President and Dr D. K. Bailey as Secretary. [A report of the inaugural meeting of this Inter-Union Commission is given on pages 469–474].

He finally informed the meeting that the present Executive Committee had discussed to some extent the question of possible changes in the structure of the Union, which might be necessary in the near future. It is proposing to the new Executive Committee that a Committee be formed to study the future organization of the Union, and to report on it to the Executive Committee and to the next General Assembly.

10. *Resolutions by Adhering Countries.*

(b) The General Secretary announced that the resolution by the National Committee for Astronomy of Australia had been withdrawn from the agenda for the General Assembly. Commissions 25 and 29 had already taken all necessary action.

(c) *Contamination of space; project West Ford.* The General Secretary announced that the Executive Committee had given long and careful consideration to the danger to Astronomy of a proposed system of tele-communication using resonant dipoles outside the atmosphere. It accordingly submitted, to the General Assembly, two resolutions that had been drawn up on the basis of drafts proposed at meetings of various Commissions and by a special committee appointed within the Executive Committee. He then proceeded to read the texts of the resolutions, which had been made available to Members in *IAU News Bulletin* No. 8 and of which the amended texts are given on pages 82–85.

Resolution No. 1 was accepted by the General Assembly without discussion.

In connection with Resolution No. 2 Professor G. Lemaître raised the question that whereas Resolution No. 1 was addressed to all governments, Resolution No. 2 was not so addressed; he thought that it should have a wider appeal. Professor P. Swings called attention to the danger that interference, at a level which is not detectable with instruments to-day, might in the future cause serious interference with astronomical observations by instruments of improved performance. He accordingly proposed that the words “or not” be added in the third paragraph of Resolution No. 2. He also agreed with Professor Lemaître’s remark, and regretted that the texts of the Resolutions were made available so shortly before the meeting.

The President explained that it had not been possible to circulate the texts of these resolutions earlier, but they had been given very detailed consideration, and that it was not in general practicable to enter into discussion of wording. He assured Professor Lemaître that his point would be met by a wider circulation of Resolution No. 2 and agreed, on behalf of the Executive Committee, to accept the amendment proposed by Professor Swings.

Resolution No. 2 was then formally adopted by the General Assembly *nemine contradicente*.

11. *Resolutions by Commissions.*

The General Secretary informed the meeting that both resolutions (a) and (b) had been withdrawn from the agenda for the General Assembly. Commissions 19 and 31 will reconsider resolution (a) before the next General Assembly. The substance of resolution (b) has been

adopted by Commission 41, and the Executive Committee has agreed to assist in its implementation.

12. *The future of the International Latitude Service.* The General Secretary formally proposed, on behalf of the Executive Committee, that the resolution submitted to the Union by the International Union of Geodesy and Geophysics (see pages 86 and 87) be adopted. This was agreed.

He then reported that, on the basis of recommendations made to it by the working group (see paragraph 4 of the resolution), the Executive Committee had accepted the offer from the Science Council of Japan to set up the Central Bureau of the ILS (later to become the International Polar Motion Service—IPMS) at Mizusawa under the directorship of Dr T. Hattori. He went on to say that Dr Hattori will take over from Professor G. Cecchini of the Osservatorio Astronomico di Torino, to whom the Union owes much gratitude for having directed the ILS since 1 January 1949, about the end of 1961.

13. *Report of the Finance Committee.* At the first session of the General Assembly a Finance Committee had been appointed to examine the accounts of the preceding three years and the budget for the coming three years, as submitted to it by the Executive Committee. The Chairman now called upon the President of the Finance Committee to present his report to the General Assembly, which was adopted as follows:

“Le Comité des Finances a élu un sous-comité composé par B. J. Bok, E. Buchar, Ch. Fehrenbach, E. K. Kharadze, et N. U. Mayall.

“1. Ce sous comité a examiné les comptes de l’UAI pour la période allant du 1er novembre 1957 au 31 décembre 1960. Les comptes correspondant à des avoirs en Dollars U.S., Livres Sterling, Florins néerlandais, et Francs français ont été tous vérifiés par des experts comptables agréés et certifiés-exacts. Le sous-comité a examiné ces documents et a demandé au comité de les approuver. Le comité les a approuvés à l’unanimité.

“2. Pour rendre ces comptes, très complexes, facilement compréhensibles, le Secrétaire Général a fait préparer les comptes sommaires figurant aux pages xxvi et xxvii du *Agenda and Draft Reports*. (pages 58 et 59). Le sous-comité a constaté que ce document reproduit bien les dépenses qui figurent dans les comptes vérifiés par les experts comptables. Il a exprimé le désir de voir figurer aussi dans ces comptes les sommes allouées pour des buts spéciaux et seulement administrées par l’UAI. Le comité a accepté ce point de vue et le Secrétaire Général a fait modifier en conséquence les pages xxvi et xxvii. [Voir pages 58 et 59]. Les sommes figurant à la fois en recettes et en dépenses s’élèvent ainsi à 228 022 \$U.S.

“3. Le comité a constaté à cette occasion l’importance du travail de comptabilité de l’Union, il a été heureux de constater avec quel soin ce travail a été fait par Mlle Splinter sous la direction du Secrétaire Général. Le Comité des Finances leur exprime sa vive reconnaissance. Le Comité des Finances signale au Comité Exécutif la grande aide que représenterait pour le Secrétariat Général l’engagement d’un comptable.

“4. Le comité a examiné la demande du Comité Exécutif d’augmenter la contribution unitaire de 500 à 600 Francs Or. Le Comité a examiné avec attention cette demande, elle lui a paru très justifiée par

- (a) l’augmentation du coût de la vie,
- (b) l’augmentation du nombre de membres de l’Union,
- (c) l’augmentation considérable de son activité par la réunion de nombreux symposiums, et de la publication de leurs procès verbaux,
- (d) l’augmentation considérable des échanges d’astronomes entre les divers pays adhérents.

Le comité a voté cette augmentation par 25 voix pour et une voix contre.

"5. Le budget pour la période des trois années a ensuite été examiné. Après discussion ce budget est proposé en équilibre à 132 000 \$U.S.

"Le comité propose de réduire toutes les dépenses au minimum indispensable de façon à garder disponible les sommes les plus élevées pour l'échange des astronomes, les réunions de symposiums, et la publication de leurs travaux.

Le président du Comité des Finances,

(Signed) CH. FEHRENBACH"

(a) *Accounts for 1957-60.* The necessary amendments to the accounts, as published in the Report of the Executive Committee on pages 59-59, will be added in a footnote.

(b) *Budget of expenditure for 1962-64.* The budget of expenditure for the period 1962-64, as submitted to the Finance Committee by the Executive Committee and as approved by the Finance Committee, was adopted by the General Assembly in the following form:

BUDGET OF EXPENDITURE, 1 JANUARY 1962—31 DECEMBER 1964

(The details of the budget are given on the facing page, page 39.)

This budget is based on an estimated total income of the equivalent of 132 000 U.S. dollars. Part of this income cannot be reliably estimated in advance, but certain headings of expenditure, notably 5, 7, 8, 9, and 12, are within the control and discretion of the Executive Committee.

Accordingly, the General Assembly, in approving this budget, specifically authorizes the Executive Committee to vary the expenditure under headings 5, 7, 8, 9, and 12, indicated by an asterisk(*). This variation may be achieved by increasing or decreasing the activities, or in other ways, to accord with any variations in the estimated income of the Union.

The General Assembly is conscious that it will have the opportunity, if it should prove necessary, of approving a supplementary budget for the period 1 January 1964 to 31 December 1964, at the General Assembly in 1964.

The General Secretary informed the General Assembly that neither the Executive Committee nor the Finance Committee had been able to make provision in the budget for two grants requested by Commissions 5 and 40.

The Chairman then expressed the thanks of the Union to Professor Fehrenbach, the Finance Committee and the General Secretary for their valuable work.

14. *Unit of Contribution.* In adopting the Report of the Finance Committee, the General Assembly formally agreed to accept the proposal of the Executive Committee, as advised by the Finance Committee, to increase the unit of contribution from 500 to 600 gold francs.

15. *Advisory Finance Committee.* The General Secretary announced that the Executive Committee had agreed to recommend that the Advisory Finance Committee be discontinued. The reason for this was that a new form of budget had been adopted, in which provision was made for the expenditure of the total income of the Union during the next three years. The main purpose of the Advisory Finance Committee, which was to advise on the expenditure of the ICSU subvention, was therefore at an end; and its remaining functions could in future be adequately carried out by the Executive Committee itself.

It was agreed not to re-appoint an Advisory Finance Committee.

The General Secretary expressed his appreciation of the work done in the last three years by the Advisory Finance Committee, and asked that he might thank the members on behalf of the General Assembly.

Heading	Purpose	U.S. dollars
1	Expenses of the Administrative Office 1962: \$5 000; 1963: \$5 000; 1964: \$6 000	16 000
2	Subscription to the ICSU	1 200
3	Expenses of Commissions	2 000
4	Specific projects	44 676
	<i>Comm. No. Project Sum</i>	
	5 <i>Bibliography of Astronomy, 1881-1898</i>	\$5 000
	6 IAU Telegram Bureau (\$666.66 annually)	2 000
	10 <i>Cartes héliographiques de la Photosphère</i> (\$326.66 annually) 980	
	10 <i>Cartes synoptiques de la Chromosphère solaire</i> (\$882 annually)	2 646
	20 Minor Planet Center, at Cincinnati (\$750 annually)	2 250
	23 <i>Carte du Ciel</i>	8 900
	27 English version of remarks to the supplement of the second edition of GCVS	400
	38 Exchange of astronomers (\$7 500 annually)	22 500
*5	Expenses of the General Assembly, 1964	15 000
6	Printing of <i>Transactions</i> , Vol. XI and Draft Reports 1964	12 000
*7	Meetings of the Executive Committee	5 000
*8	Expenses of Symposia	18 000
*9	Publication of the Proceedings of Symposia	8 000
10	Meetings of Inter-Union Committees	5 000
11	Representation	1 000
*12	Projects authorized by the Executive Committee	4 000
		131 876

16. *Special Nominating Committee.* The President reminded the General Assembly of the agreed procedure by which a Special Nominating Committee—to consist of the President of the Union, the immediate past President, one retiring member of the Executive Committee (to be appointed by the Executive Committee) and four other Members (to be appointed by the Nominating Committee)—is appointed within one year following each General Assembly to advise the Executive Committee on nominations for the new Executive Committee.

On this occasion there would be five members of the new Executive Committee who might retire in 1964, and the Nominating Committee, only appointed for the duration of the General Assembly, had therefore to consider five alternative appointments of the four Members.

The President then announced that the Nominating Committee proposed the following alternative committees, the final composition being dependent on which of the retiring members of the new Executive Committee (L. Goldberg, R. M. Petrie, D. H. Sadler, B. Sternberk or R. H. Stoy) would be selected by the new Executive Committee:

1. L. Goldberg—V. A. Ambartsumian, J. H. Oort; Ch. Fehrenbach, W. H. McCrea, M. Miyadi, J. Sahade.

2. R. M. Petrie—V. A. Ambartsumian, J. H. Oort; Ch. Fehrenbach, M. Miyadi, J. Sahade, A. E. Whitford.
3. D. H. Sadler—V. A. Ambartsumian, J. H. Oort; Ch. Fehrenbach, M. Miyadi, J. Sahade, A. E. Whitford.
4. B. Sternberk—V. A. Ambartsumian, J. H. Oort; Ch. Fehrenbach, W. H. McCrea, M. Miyadi, J. Sahade.
5. R. H. Stoy—V. A. Ambartsumian, J. H. Oort; Ch. Fehrenbach, M. Miyadi, J. Sahade, A. E. Whitford.

17. *New Members of the Union.* The General Secretary announced that, according to the Statutes, the Union is composed of Members approved, on the proposals of the Adhering Organizations or National Committees, by the Executive Committee on the basis of their achievement in some branch of Astronomy; and that, according to the By-laws, proposed changes in the list of Members are submitted by the Executive Committee to the Nominating Committee. He went on to say that the Executive Committee had acted according to these procedures and, on the advice of the Nominating Committee, had approved of the addition of 238 new Members and the deletion of 16 Members. He further announced that, as a result of proposals from Commissions, the Executive Committee had agreed to the co-option of two scientists from countries that do not adhere to the Union. The General Secretary then proceeded to read the names of the new Members and of the deleted Members, and informed the General Assembly that these names would be published in the next *Information Bulletin* and would be incorporated in the list of Members to be printed in the *Transactions*.

18. *Commissions.*

(a) The President announced that, sometimes as a result of proposals by the Commissions themselves, the Executive Committee formally proposed to the General Assembly that the following changes be made in the Commissions of the Union:

- (i) Commission 3 (Notations) be dissolved;
- (ii) Commission 14 be renamed "Commission on Fundamental Spectroscopic Data";
- (iii) Commission 28 be renamed "Commission on Galaxies";
- (iv) Sub-Commission 29 *a* become Commission 36 on "The Theory of Stellar Atmospheres".

The General Secretary stated that the Executive Committee had given careful consideration to the proposal that Sub-Commission 29 *c* on Stellar Classification should become a separate Commission, but had been unable to recommend this change to the General Assembly.

With this explanation the proposals above were adopted by the General Assembly.

(b) The General Secretary, on behalf of the Executive Committee, submitted the following list of Presidents and Vice-Presidents of Commissions for election by the General Assembly, subject to their willingness to serve:

<i>No.</i>	<i>President</i>	<i>Vice-President</i>	<i>No.</i>	<i>President</i>	<i>Vice-President</i>
4	W. Fricke	G. M. Clemence	15	K. Wurm	F. L. Whipple
5	J. Kleczek	J. B. Sykes	16	A. Dollfus	M. G. J. Minnaert
6	A. R. Hogg	F. L. Whipple	17	K. Koziel	Th. Weimer
7	Y. Hagihara	W. J. Eckert	19	B. Guinot	P. Melchior
8	F. P. Scott	R. H. Stoy	20	P. Herget	N. S. Yakhontova
9	I. S. Bowen	O. A. Melnikov	21	D. Barbier	P. Swings*
10	A. B. Severny	M. A. Ellison	22	V. V. Fedynsky	P. M. Millman
12	R. Michard	M. N. Gnevyshev	23	P. Sémirot	G. J. Järnefelt
14	Ch. Moore-Sitterly	G. Herzberg	24	A. N. Deutsch	W. J. Luyten

<i>No. President</i>	<i>Vice-President</i>	<i>No. President</i>	<i>Vice-President</i>
25 V. B. Nikonov	A. W. J. Cousins	35 M. Schwarzschild	P. Ledoux
26 P. van de Kamp	R. v.d. R. Woolley	36 C. de Jager	K. H. Böhm
27 P. Th. Oosterhoff	G. H. Herbig	37 H. Haffner	M. F. Walker
28 B. Lindblad	R. L. Minkowski	38 M. G. J. Minnaert	P. Swings
29 L. H. Aller	A. B. Underhill	40 J. F. Denisse	R. Hanbury Brown
30 Ch. Fehrenbach	R. M. Petrie	41 P. G. Kulikovsky	J. Ashbrook
31 A. A. Mikhailov	M. Miyadi	42 J. E. Merrill	V. P. Tsesevich
33 B. J. Bok	L. Perek	43 H. Alfvén	L. Spitzer
34 B. Strömgren	S. B. Pikelner	44 L. Goldberg	A. G. Mashevitch

This list was agreed by the General Assembly.

[*Subsequent to the General Assembly, at the request of Professor Swings, the Executive Committee appointed F. E. Roach as Vice-President of Commission 21].

(c) The General Secretary explained that, according to the revised By-laws, the members of the Organizing Committees of the Commissions are appointed by the Commissions themselves, subject to the approval of the Executive Committee and the General Assembly. He accordingly submitted for general approval the list of Organizing Committees, which had been approved by the Executive Committee on the advice of the Nominating Committee. The Organizing Committees as approved by the General Assembly are given in the list of Commissions on pages 486-495.

Before proceeding with the next item of agenda the General Secretary mentioned briefly the fact that, according to the new By-laws, the membership of Commissions was no longer a concern of the General Assembly. He said that the composition of the membership of Commissions had been carried out in accord with the revised Statutes and By-Laws and, as far as practicable, with the procedure described in detail in section 3 of *Information Bulletin* No. 4. [A list of Commissions and their membership is given on pages 486-495].

19. *Resolutions submitted by Commissions.* The General Secretary reminded the General Assembly that the Executive Committee had appointed a Resolutions Committee, consisting of A. A. Mikhailov, O. Struve and himself (see page 51), to advise the Executive Committee in respect of resolutions submitted by Commissions, with a view to recommending to the General Assembly which resolutions should be formally submitted for consideration by the General Assembly. Of the twenty-three resolutions submitted by the due date: ten, concerned with finance, were submitted to the Finance Committee for consideration and are incorporated in the budget of expenditure for 1962-64; five were included in decisions of the Executive Committee, or in the resolutions proposed by the Executive Committee; seven were considered by the Resolutions Commission as not requiring the full weight and authority of the General Assembly; and only one was recommended for separate consideration by the General Assembly. The Executive Committee accordingly recommended that only this one resolution, proposed by Commission 14, be formally submitted to the General Assembly.

This was agreed.

The General Secretary then formally proposed the adoption of the resolution by Commission 14 of which the full text is given on pages 88 and 89. This was adopted unanimously.

The General Secretary continued to say that, in order to give greater authority to those resolutions adopted by Commissions but not submitted to the General Assembly, the Executive Committee proposes the following resolution:

“*Considering* the impracticability of giving individual attention to every resolution adopted
c*

by each of its fifty-eight Commissions and Sub-Commissions, and having full confidence in its Commissions, this General Assembly

wishes to give its endorsement to the resolutions adopted by its individual Commissions, and *recommends* that astronomers give effect to these resolutions in so far as they are able.”

This was unanimously adopted.

[*Note:* the texts of resolutions adopted by Commissions are given in part 2.]

20. *The place and date of the twelfth General Assembly.* The Chairman called upon Professor O. Heckmann to address the Assembly. Professor Heckmann spoke as follows:

“Ladies and Gentlemen:

As early as 1955 the government of one of the smallest German countries, der Senat der Freien und Hansestadt Hamburg, the Senate of the Free and Hanseatic City of Hamburg, invited the International Astronomical Union to have one of its meetings in Hamburg. The invitation was repeated in 1958 and confirmed in 1961. The Foreign Office of the Federal Republic of Germany assured the Union that all participants qualified to attend the General Assembly under the Statutes will be welcomed as individuals to our country.

“Hamburg is a large city well suited to accommodate assemblies of considerable size. It has a university whose facilities will help to organize a scientific congress without too much difficulty. It has a state observatory which, with the whole city, suffers from a rainy climate. But late in August or early September the probability of meeting with friendly and even warm days is appreciably larger than zero. So it could happen, if the International Astronomical Union decides to gather in Hamburg in 1964, that you would find the city colourful and gay. But in this respect I cannot give any promise. What I can say, however, is, that all of my German colleagues will feel honoured and that the meeting would be prepared with great care if you choose Hamburg as the place of your next General Assembly. After the unique success of the Berkeley Meeting we can only promise that we would do our best.

“I therefore have the pleasure of formally inviting the International Astronomical Union to have its next meeting in Hamburg.

“Par conséquent j’ai le grand plaisir d’inviter officiellement l’Union Astronomique Internationale de tenir sa prochaine assemblée à Hambourg.”

On the proposal of the President the General Assembly unanimously agreed to accept this gracious invitation to meet in the City of Hamburg in 1964, the precise dates being left for later decision by the Executive Committee. The President expressed the thanks of the Union to Professor Heckmann.

21. *Election of new Executive Committee.* The Chairman formally proposed that Academician V. A. Ambartsumian be elected the new President of the Union. This was approved by acclamation.

The Chairman reminded the Assembly of the names submitted for consideration at the first session, and formally proposed that Professor Y. Hagihara and Professor G. Haro be elected Vice-Presidents in place of Professor O. Heckmann and Professor B. V. Kukarkin who were due to retire. This was unanimously approved.

He pointed out that Professor L. Goldberg, Dr R. M. Petrie, Professor B. Sternberk and Dr R. H. Stoy, as Vice-Presidents, and Mr D. H. Sadler, as General Secretary, would continue to serve for a further term of three years.

The President then announced, on behalf of the Executive Committee, that it had been agreed to appoint an Assistant General Secretary, and that Dr J.-C. Pecker had very kindly consented

to take on the duties of this post. The General Assembly expressed its approval of this appointment.

The Chairman then invited Professor Ambartsumian and Professor Hagihara to take seats on the platform. [Professor Haro was not present at the General Assembly.]

22. *Representatives to the ICSU.* In accord with the By-laws, the General Assembly appointed the President and the General Secretary as the Union's representatives to the International Council of Scientific Unions.

23. *Addresses by the retiring and the newly-elected Presidents.* The retiring President, Professor J. H. Oort, addressed the meeting as follows:

"Before inviting the new President to take the chair, I should still like to say a few words to all of you.

"I have greatly appreciated the honour and confidence of electing me as President in Moscow. I have done my best to fulfil the duties of a President, but I am deeply conscious of the fact that I have given far too little time and energy to it.

"If I have not felt the presidency as a burden but as a pleasure, this is due to generous co-operation and the great good-will that I have met with in so many of you, and in particular in the Executive Committee. This has been so even in the few cases where in the Executive Committee we held different views and had to agree to disagree. I want to thank you for this.

"*Far above all* you as well as I are indebted to the General Secretary. Neither the Union as a whole, nor this meeting, nor all the symposia and the many valuable publications that have been connected with them could have had anything like the success they have had, but for the untiring devotion of Mr Sadler. Many have been in contact with him in writing. But none of you can have had an adequate idea with how many others he was *at the same time* keeping up a sometimes extensive and difficult correspondence. I am the only one besides Miss Splinter who has seen all the correspondence he has carried on and I have had some trouble in keeping my head above it. He has systematically taken all difficult tasks upon himself and has made mine as light as possible.

"In a normal Government Department such work as carried out by the Bureau of our Union would probably have required about the tenfold of the staff of two that *we* have, and I am sure it would not have worked so efficiently. If you think that beside all this Mr Sadler had his many responsible duties at the Nautical Almanac Office, you may well marvel about how he did it.

"And he has done still more. He has at several occasions given extensive thought to the deeper problem of how our Union should be reformed to keep it a workable and successful proposition.

"At the close of my three-year term as President I should like to propose a special vote of thanks to our wonderfully-efficient General Secretary and wish to include in this vote the Assistant Secretary Miss Splinter."

Professor Ambartsumian then took the chair and addressed the Assembly as follows:

"Professor Oort, Ladies and Gentlemen, Members of the International Astronomical Union, and guests:

"The International Astronomical Union is one of the oldest and most successful scientific organizations. Therefore the confidence shown by the Union to an astronomer, in electing him President, is a great honour to him. I am very grateful to you for the election and for this

confidence. It is very honourable; but at the same time it is a serious responsibility. Such outstanding astronomers as Spencer Jones, Lindblad, Struve, Danjon and Oort have acted as Presidents, and have set standards that are difficult to emulate; our Union is much indebted to them for its present authority and success.

“I should like particularly to call attention to the great capacity for work, ability and magnificent talent of Professor Jan Oort, which have characterized his presidency. The great success of our present General Assembly in Berkeley is the best evidence of this. I am glad that the Union, through its Executive Committee, may hope to have Professor Oort’s further active assistance.

“Under the present difficult conditions, when relations between many countries have become very complicated, the activity of the IAU may serve as a good example of successful co-operation and good will. And we see how this co-operation brings forth fruitful results, being a powerful instrument for the progress of astronomy.

“We should further increase the regular exchange of scientific experience and new scientific ideas among astronomers of different countries, and further strengthen collaboration directed to the solution of great international problems and to the co-ordination of the activities of observatories in different countries.

“Proceeding on these lines we must pay particular attention to:

- (a) The extension of IAU activity to the new problems and branches of modern astronomy.
- (b) The strengthening of scientific exchanges between the countries of the West and the East. We (astronomers) have good achievements in this direction, and I hope that the different aspects of scientific co-operation, including the exchange of astronomers, will continue to grow in the future.
- (c) The development of astronomy in the new States which have entered the path of independent development. Each of you understand the role of astronomy in the progress of mankind, and it is quite natural to require that young nations should have the privilege of intensive participation in the development of the science, which is the most international of all.
- (d) The requirement that all countries, in which astronomical activity exists, should have the possibility of participating in the work of the Union. If we can create conditions that will allow the admission of China into the Union, this will be a great contribution to our Union becoming a real international organization.

“The expanding fields of research in astronomy all over the world, and the increasing number of adhering countries, lead to a considerable increase in the number of Members of our Union. I consider this to be inescapable, because it is connected with the development of the progress of astronomy. But such an increase implies the necessity for the consideration of possible changes in the structure and organization of the Union. Undoubtedly some aspects of the organization of the Union have become out of date. We must examine very carefully possible changes in the character of our General Assemblies. Considering this question the Executive Committee must take into account the opinions of both individual Members and of National Committees. My personal opinion is that the number of symposia should be increased and that their organization should be more perfect.

“We are all very glad to meet here in a country where the astronomical traditions are old and where the large modern astronomical reflectors appeared for the first time. We are most impressed by the hospitality of our hosts—astronomers of the U.S.A. With all my heart I wish them further successes in their work.

"I have had to fly over nearly a half of the Globe to come from Soviet Armenia to California. We started from Moscow nearly at the moment when Major Titov started his flight aboard his cosmic ship; the time interval was only about 5 minutes. And nearly at the moment when our plane landed in Los Angeles, Titov's space ship was landing in U.S.S.R.; and again the time interval was only some minutes. But there was one more difference: the space ship 'Vostok 2' made $16\frac{1}{2}$ revolutions more than we did! Of course all of us are impressed with the increasing role of astronomical and cosmical investigations in developments for the benefit of the whole of mankind.

"Let the IAU do its utmost so that our science, to which we all are so devoted, can contribute to the progress of, and peace between, all nations.

"We shall return soon to our own observatories in order to put into operation the plans of scientific research adopted here. I do not doubt that all of you will come to the next General Assembly with new achievements and new knowledge about the Universe. But every new-solved problem, every revealed secret, gives rise in its turn to a great number of new problems; and this makes our science so attractive. With every new success new problems, which did not exist before, appear.

"I should like very much to know the new results and achievements which will be discussed in 99 years' time at the 44th General Assembly of the Union. By the way, if the number of Members continues to increase in the same proportion as at present, more than $1\frac{1}{2}$ million Members and invited participants (without taking into account wives and other members of families) will participate in the 44th General Assembly. I am equally eager to know what *new problems* will be raised at that General Assembly. With these thoughts I should like to wish you new successes in your work, and to express my confidence that our Union will prosper further."

24. *Closing ceremonies.*

In the course of her comprehensive vote of thanks, Mrs A. G. Masevitch spoke the following words of thanks to the hosts:

"It is a unique privilege for me to have the responsibility of expressing the thanks of so many astronomers to so many persons, who have individually and collectively contributed so much to the success of this General Assembly and to our enjoyment of it. I think that we each have found some special provision or special service of which we each would like special mention to be made; I know that I have. But all I can do on your behalf is to thank all those I know have contributed to the General Assembly and to apologize both to you and to them for any accidental omissions that I may make.

"First of all I am sure that you would wish me to express our thanks to the Government of the United States of America, particularly to the President for his gracious message and to Mr Adlai Stevenson for having made a special journey to California to welcome us on behalf of the President; and for his address at the Inaugural Ceremony. Our host organization is, however, the National Academy of Sciences which has been ultimately responsible for the invitation to meet in this country and for all the arrangements that others have so brilliantly carried out; there are many of us who owe a particular gratitude to the officers and the staff of the Academy for their efficient administration of the travel grants from U.S. funds.

"We owe special thanks to the University of California and, in particular the Chancellor, Dr Strong, for providing this wonderful setting for our meetings, and for making available for our use these fine buildings—the well-equipped lecture rooms and auditoria, and the friendly Residence Halls.

"To the U.S. National Committee for Astronomy, particularly its chairman Dr Leo Goldberg, has fallen most of the general planning for this General Assembly. Its Financial Committee,

under its energetic chairman Dr D. H. Menzel, has been impressively successful in raising from public and private sources so much money to form the Special U.S. Fund to assist the travel expenses of Members to attend this Assembly; I do not know—and I think it is quite impossible to assess—the number of participants who, without grants from this U.S. Fund, would otherwise have been unable to attend. But the General Secretary tells me that, in all, grants were made to over 300 non-American astronomers. On your behalf I thank all those who contributed to this Fund and those, particularly Dr Goldberg and Dr Menzel, who inspired and administered it.

“Most of you have already expressed your gratitude to Dr and Mrs C. D. Shane and through them to the Local Organizing Committee. No words of mine can convey adequate thanks to them for their arduous efforts over many months; the success of those efforts is clear from the perfection of the organization, and our appreciation is unlimited. Their aim was to provide us with every facility; I hope that their knowledge that they have succeeded brilliantly and that we are all abundantly satisfied will be a source of great pleasure to them. But we must not forget all the many others who have given their services: I can mention by name only Dr J. G. Phillips, who organized such an impressive exhibition, and Dr H. F. Weaver who has contributed so much in ideas.

“There are so many whose names are unknown to us who have contrived to make our meetings successful and our stay in Berkeley so enjoyable: the staff of the Residence Halls have made us both welcome and comfortable, and have fed us well; the staff of the University have guided our footsteps and have provided us with all the facilities our meetings required, often at short notice; the many voluntary and other helpers at the registration offices, on the excursions, and in countless other ways have earned our gratitude; the performers at the delightful concerts and other entertainments. To all of them I say ‘thank you’ on your behalf.

“This General Assembly would, however, not have been possible without the careful planning and detailed preparation by the General Secretary Mr D. H. Sadler and the Assistant Secretary Miss Nel Splinter. They have worked extremely hard during the last fortnight, and I should like them to know that we all recognize and appreciate their efforts.

“It is my pleasure to ask you to express your thanks to all those I have named, and the many who I have by accident omitted.”

On behalf of the ladies, Mrs Oort addressed the meeting as follows:

“It is a great pleasure for me to express the gratitude of all the ladies attending this meeting to the ladies of the receiving committee, who all made the stay in Berkeley for *everyone* such an immense joy and happiness.

“Everybody knows how much work there was behind all this and that the ladies-committee did a very fine job and worked day and night to show us the nicest places and the loveliest sites in this neighbourhood.

“We tried to express these feelings already yesterday when we had a gathering of all the ladies and presented something that may add colour to the astronomers’ gardens in Berkeley and on Mount Hamilton, hoping that all of you who received us so hospitably will often be reminded of the friends you made all over the world!

“I also want to give our special thanks to the Berkeley ladies who showed us their homes and gave us such happy times at coffee parties, and who guided us around the Bay area, showing the lovely California coast and the impressive sequoias. The sunset supper at Mount Hamilton will always remain as a treasure in our memory, and when drinking a glass of wine we will always think of the party in the garden of Napa Valley.

"I could go on and on mentioning the enjoyable events during the past ten days.

"Being housewives we realize to the full extent the great effort which must have lain behind the remarkably smooth running of information desk and meal services and the innumerable small things that were necessary for the care of this huge family gathering.

"I wish I had words enough to convey our warm thanks to all those who contributed; especially because it was done with so much kindness. If there were time enough I would like to thank each of you personally.

"There cannot be any doubt however that it was Mrs. Shane who contributed most to the organization of this meeting. It was *she* who gave not only for a whole year all her *time*; but she put her *heart* into it and this must have been the reason that we all liked *so* well the splendid excursions offered to us with such care and taste! We have admired the skill and perfection in which it was all made ready for us.

"If I may say a few personal words now, I want to tell you a recollection of the first time I came in touch with you, Mrs Shane: One year, very long ago, we received a Christmas card from Lick Observatory which showed a photograph of a front-door standing ajar, with the wish that all your friends might enter the door of your house and that we were welcome in your home on the mountain!

"During this meeting I often wondered if the number of friends which entered your home this summer was not a bit *too* large for *one* front-door and I sincerely hope that after the end of the meeting you will be able to close all doors behind you and that it will be given to you and your husband to find time to enjoy your family and your personal life.

"Don't forget, wherever you come, that you will find *many* doors open all over the world of the homes and houses of astronomers' wives who remember the beauties you showed them in such a charming way of your beloved *California*."

The Chairman then gave the General Secretary the opportunity to thank all those who had contributed so much to the organization of the General Assembly, and closed the meeting around noon.

EXECUTIVE COMMITTEE

AUGUST 1958 — AUGUST 1961

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