

INTERNATIONAL ASTRONOMICAL UNION  
Sixtieth Meeting of the Executive Committee  
Munich, Germany, 1990 September 7-10

DRAFT MINUTES

Present

Y. Kozai	President
A.A. Boyarchuk	President-Elect
A.H. Batten	Vice-President
R. Kippenhahn	Vice-President
P.O. Lindblad	Vice-President
V. Radhakrishnan	Vice-President
M.S. Roberts	Vice-President
Ye Shu Hua	Vice-President
D. McNally	General Secretary
J. Bergeron	Assistant General Secretary
J. Sahade	Advisor
J.-P. Swings	Advisor

In Attendance

M. Orine	IAU Administrative Assistant
J. Crook	IAU Secretary

I. Opening and Welcome by the President of the IAU

II. INTERNAL MATTERS

II.1. The Minutes of EC 59 were approved.

II.2. The Minutes of the Officers Meeting 1990 February 13-14 were reviewed (a copy is appended to these minutes as Annexe I).

II.3. All Matters Arising from the Minutes of EC 59 will be considered in EC 60 except;

a) it was noted with satisfaction that Prof. Fang LI Zhi had left the US Embassy in Beijing and has taken up an appointment at the Institute of Astronomy, Cambridge, UK;

b) it was noted with satisfaction that a recent status report on the HIPPARCOS mission noted that the solar cells were not deteriorating in low earth orbit as predicted after launch and that a 3½ yr lifetime could now be expected for the satellite. With the addition of a 4th tracking station communication could be maintained with the satellite over 92% of its orbit and so there is every likelihood of the mission achieving 60-70% of its target programme obtaining positional information good to 2 milliarcseconds.

II.4. The Agenda was approved subject to minor rearrangements, a number of additional items and updating of information.

II.5. SNC

The President reported that the Special Nominating Committee has completed the selection of Assistant General Secretary and Vice-Presidents for the Executive Committee 1991-1994. Candidates were still being approached for the office of President-Elect.

II.6. Secretariat

II.6.1. Staff

Mrs. H. Gigan resigned as IAU Secretary with effect from 1990 Jan. 31. Mrs. Gigan had found employment nearer her home.

Mrs J. Crook was appointed IAU Secretary with effect from 1990 July 09.

CNRS had raised a problem caused by change in French social legislation concerning the status of Mrs. M. Orine. On appointment it had been believed that Mrs. Orine was "detached" from CNRS. However, as the IAU was a non governmental institution such "detachment" was not allowed under the new legislation. INSU had taken up the matter with CNRS and it appeared likely that Mrs. Orine could continue to be retained by the IAU though her salary would be paid by CNRS and the IAU billed by CNRS. It appeared likely that such a procedure would not incur additional expenditure for the IAU but there was the possibility that Mrs. Orine could lose 3 years credit towards her pension. The new scheme would be deemed to start on 1990 September 01. The Executive Committee instructed the General Secretary to ensure that Mrs. Orine did not suffer for loss of pension credit and that the IAU should be guided by its responsibilities as a good employer.

#### II.6.2. Refurbishing

The Executive Committee agreed to a request from the General Secretary that the refurbishing of the Office agreed in 1989 should be renewed for 1990/91 but that the limit of 20,000 Sw. Fr. should not be exceeded. The refurbishing had been put into abeyance following an overspend on the new computer facilities.

#### II.6.3. New Computer System

The General Secretary reported on the Union's new computer system and local area network based on 3 Compaq Deskpro 386s PCs. The system has a tape backup facility and backups are taken every 3 days. There are 2 Printwriters and a Laser Printer for output. The new system has allowed considerable improvement in the operation of the Secretariat and Mrs. Orine has recently finished her reorganisation of the Union's various data bases -in particular the accounting system. This facility should serve the Union for about 5 years before replacement becomes necessary.

#### II.7. Trust Fund

The General Secretary reported that only 3 members commented on a proposal to establish a Trust Fund -all favourably- as set out in IB 63. Further comments have been solicited in IB 64. However, since such penny numbers do not constitute a real test of membership opinion it was agreed to test the proposal by means of an Executive Committee resolution on the Agenda of the XXIst General Assembly. The text of the agreed resolution is appended to these minutes as annexe II.

#### II.8. IAU Membership

II.8.1. The General Secretary reported that the Membership of the Union at 1990 June 30 was 6651.

II.8.2. The General Secretary reported that the new Alphabetical Membership list was now available from Kluwer. It was updated in IB 63 and a further update will appear in IB 65.

II.8.3. The General Secretary reported that despite some significant progress there were still several tens of members with ambiguities in their addresses.

## II.9. Adhering bodies

II.9.1. The General Secretary reported on the status of payments of subventions 1990 by Adhering Organisations. Just under 50% of the expected income had come in by 1990 June 30 (see Annexe III attached to these minutes).

II.9.2. The General Secretary reported that a growing number of Adhering Countries were in arrears with their subventions. The total arrears as of 1989 December 31 was 86,642 Sw.F. Iran, Rumania and Venezuela were to be advised that they could have their membership in the Union terminated under Statutes 7 as they were in arrears for more than 5 years.

II.9.3. In view of the growth in membership of the Union, the General Secretary proposed that the number of categories of adherence should be extended. It was noted that the United States adheres in the highest category now available but would more naturally adhere in proposed categories X or XI. It was agreed that a proposal to amend Bye-Law 24 be put on the Agenda for the XXist General Assembly. The text of the new Bye-Law 24 is appended to these Minutes as Annexe IV.

II.9.4. Further contact has been made with Vietnam who have been advised of the possibilities of membership in, associate membership in, or simply proposals for Vietnam members of, the Union. The President will visit Vietnam to assess the situation of Astronomy in that country on behalf of the Executive Committee.

II.9.5. The General Secretary advised the Executive Committee of a possible conflict between the Union and the International Relations Committee of the Royal Society (UK). The IRC was insisting on inspection of the previous years accounts before paying increases in subvention. The Union's accounts are based on a 3 year cycle and are not complete until accepted by a General Assembly. The Executive Committee instructed the General Secretary that the Union's Account could not enter the public domain until accepted by a General Assembly and to advise the Royal Society accordingly.

## II.10. Commission Matters

II.10.1. The General Secretary reported that he had written to Commissions 4/7/8, 10/12, 15/16/20/22, 19/31 & 26/37/42 inviting them to consider if amalgamation could offer any scientific advantage in the future. Commissions 10/12 had already voted on a merger proposal and had voted

approximately 4 to 1 against such a step. Commissions 19/31 had given the matter prior consideration but deemed that as their science was now moving apart such a step offered no scientific advantage. The remainder believed that amalgamation would lead to the formation of subdivisions to maintain specific and continuing scientific activity. The General Secretary has therefore withdrawn the suggestion. One outcome has been a greater willingness to consider joint commission meetings for the XXIst General Assembly. Several Commissions, not approached, are looking at areas of future collaboration.

- II.10.2. The largest 3 Commissions (28,34 & 40) were also asked to re-examine their functions. Currently, they tend to act as a forum for discussion rather than organise such matters as critical observations, standards, etc. These Commissions will not be expected to report until after the XXIst General Assembly.
- II.10.3. A paper on the reform of the Commissions structure of the Union, presented by the General Secretary at Executive Committee 59, was not pressed in view of the clear opposition of the Commissions to merger at this time and other objections by the Executive Committee.
- II.10.4. Commission 12 has proposed that its name should be changed from "Radiation and Structure of the Solar Atmosphere" to "Solar Structure". The Executive Committee felt that such a change could imply a change of mandate of the Commission to include the deep interior of the Sun. The Executive Committee suggested that "Outer Layers of the Sun" or "Structure of the Solar Atmospheres" might be considered by Commission 12.
- II.10.5. Commission 41 has not yet made a formal proposal for the authorship of the 75 year History 1919-1994 of the Union. The Executive Committee suggested A. Blaaw or O. Gingerich might be approached as authors or to suggest authors.
- II.10.6. The list of suggested Presidents and Vice-Presidents of Commissions 1991-1994 received to date is appended as Annexe V of the Minutes.

## II.11. General Assemblies

- II.11.1. XXIst General Assembly, Buenos Aires, 1991 July 23-August 01
  - II.11.1.1. The General Secretary reported on his visit to Buenos Aires March 5-10, 1990. It proved a valuable visit since it led to costings for hotels, excursions, etc. The Preliminary Information was fully discussed and has now been published in IB 64. Inflation is still a problem -since the austral was rising against the US dollar, no form of dollar currency was acceptable at the beginning of the visit.

II.11.1.2.

a) The list of suggestions for Invited Discourses from Commissions' Presidents was augmented by suggestions from the Executive Committee. The following were selected:

- . Gravitational Lensing (Refsdal & Surdej)
- . Retrospect on Voyager (Stone)
- . Observational Problems in Extragalactic Astronomy (Arp)

b) The following Joint Discussions were selected from the suggestions supplied by Commission's Presidents:

- . HIPPARCOS -an Assessment
- . First Results from the Hubble Space Telescope
- . Results from ROSAT & GRO & other Recent High Energy Astrophysics Missions
- . Cosmic Background
- . Origin of Stars & Planetary Systems
- . An Overview of the Interstellar Medium
- . Reference Systems: What are they & What's the Problem?

c) The following Joint Commission Meetings were selected from the suggestions supplied by Commission's Presidents.

- . Automated Telescopes for Photometry & Imaging.  
Performance & Results with IR Arrays
- . Rotation of Solar System Bodies
- . Atomic & Molecular Data for Space Astronomy:  
Needs & Availability
- . A Proposal for an International Antarctic Observatory
- . Late Evolution of Low Mass Stars
- . Solar & Stellar Coronae
- . High-Redshift Galaxies
- . Archiving of Current Observational Data  
(including Solar System Data)

d) The General Secretary reported that all but 5 Commissions had supplied preliminary information on the proposed Commission Scientific Programmes at the General Assembly. The Commission Presidents who had not responded would be sent a reminder. It was planned to publish a summary scientific Programme for the General Assembly in IB 65.

II.11.1.3. The General Assembly was announced in IB 63 and the Preliminary Information and Registration form were published in IB 64.

II.11.1.4. The Executive Committee acceded to a request from the Amateur Astronomy Group in Argentina that arrangements be made to admit members of such groups to the Invited Discourses at the General Assembly. The Local Organising Committee is to be able to take this into consideration when planning for the Invited Discourses. It was made clear that reserved seating for all IAU participants was essential.

II.11.1.5. The Union will be sending invitations to attend the General Assembly to other Unions and Inter Union Committees within

the ICSU family -IUGG, URSI, IUGS, IGU, IUPAP, IUPAC, COSPAR, FAGS, IUCAF, SCOSTEP, SCOPE, SCOR, IMU, IUTAM, SCAR, IUBS.

II.11.1.6. The following names were suggested for possible members of the Resolutions Committee:

R. Cayrel, D. Heeschen, L. Houziaux, R. Kraft, J-C. Pecker, P. Wayman, R. West, H. van Woerden.

II.11.2. XXIInd General Assembly, The Hague, 1994 Aug. 16-25.

II.11.2.1. The dates chosen for the General Assembly were constrained by the availability of accommodation coming free in Scheveningen at the end of the summer season.

II.11.2.2. The General Secretary, at the request of the Executive Committee visited the Hague 1990 June 11, 12 to look at the facilities and a favourable report of that visit is appended to these Minutes as annexe VI.

II.11.2.3. The General Secretary reported that the Netherlands NOC and LOC for the General Assembly favoured a return of the 10 day General Assembly though with a radically changed format.

II.11.2.4. The Hague Conference Centre Brochure was received by the Executive Committee.

II.11.2.5. Some concern was expressed by some Members of the Union who attended the COSPAR General Assembly on the ability of the Hague Conference Centre to cope with large numbers of participants for lunch. This and other questions were addressed by Prof. H. van Woerden who attended the Executive Committee for this item. He was able to reassure the Executive Committee that such points had been taken up and a number of options had already been discussed. The meeting room accommodation was ample for the Union's requirements and the Union would have exclusive use of the Conference Centre. He agreed that the geography of the building was not straight forward and would need to be well signposted. There was a considerable amount of cheap boarding house accommodation in Scheveningen (a North Sea Coast Resort adjoining the Hague) but no University Hall of Residence accommodation. The local tourist office considered that there would be ample lodging space for participants after mid August. Public transport both within Holland and the Hague were excellent.

The General Secretary will seek a formal reservation from the Netherlands to be presented at the XXIst General Assembly.

II.11.3. Format of General Assemblies

II.11.3.1. As requested at Executive Committee 59, a paper on the revision of the Format of General Assemblies was circulated to Commission Presidents for comment. 4 favoured retention of the existing format, 7 favoured a shortened format, 23 have ignored the issue and 6 did not reply.

II.11.3.2. See II.10.3.

II.11.3.3. A paper on the Format of General Assemblies had been received from the Netherlands -appended to these Minutes as Annexe VII -Prof. van Woerden was invited to present it to the Executive Committee. In essence the Netherlands favours retention of the 10 day format, dropping Symposia and Colloquia before and after the General Assembly and making Symposia a feature of the Scientific Programme at the General Assembly so restricting heavily the time available to the Commissions for meeting.

A vigorous discussion took place. A.H. Batten introduced an historical note (Annexe VIII of the Minutes) in which he pointed out that a change of format had been anticipated by Heckman in 1970. No firm conclusions could be reached and it was decided that the General Secretary should prepare a short paper on Format of General Assemblies for IB 65 to solicit the views of the membership.

## II.12. Finances

II.12.1. The audited accounts of the Union for 1989 were presented. It was pointed out that the need to purchase a new computer system for the Secretariat had reduced the expected surplus. There was a considerable loss on exchange due to a sharp drop in the value of sterling in late 1988. The interest received on the Sterling Investment approximately covered the loss. This event emphasized the nature of the Union's current banking arrangements. Its resources are placed in short term deposit and non Swiss currency is revalued at the end of each period. Charges are also levied as deposits are returned to current accounts. The General Secretary had been in touch with UBS in London to discuss better arrangements. A Management Account could serve the Union better. Such an Account carries a charge of 0.175% of total amounts managed. Assuming a Union Balance of 650,000 SwF. and a mean holding of 300,000 SwF. annual income, the annual charge on the management of 950,000 SwF. would be 1665 SwF. The Executive Committee authorised the General Secretary and the Assistant General Secretary to meet with UBS in Lausanne to discuss a management scheme for the Union's Funds. The Accounts for 1989 were accepted.

II.12.2. A summary of the Union's Accounts for the period 1990 January 01-June 30 was presented. They showed that the income and expenditure were within the budget and were accepted.

II.12.3. The Draft Triennial Budget for the period 1992-1994 was discussed. An allowance for inflation of 5%/annum throughout the period was assumed. This allowed some relief to the level funding of the previous six years. The Draft Budget could not be finalised since the contribution to ICSU was not clear -it was expected that ICSU would adjust its funding to avoid the collection and ultimate return of Unions' dues. Apart from some minor readjustments the draft



Budget was accepted subject to finalisation before circulation to the Adhering Countries (the final form of the Draft Budget is appended to the Minutes as Annexe IX -it was recomputed on the basis of 248 units of subscription, no default by Adhering Countries, no allowance for currency fluctuations, a decision by the 1990 ICSU General Assembly to collect dues from the Union at the rate of 2.5% of actual annual contributions by Adhering Organisations up to 1992 and 3.5% thereafter, an allowance for inflation of 5%/annum with a budget surplus of < 12000 SwF. over the 3 year period).

II.12.4. The Assistant General Secretary pointed out that the contribution the IAU made to its Colloquia and Symposia were a small fraction of the total budget of such meetings. The increases made, whilst welcome, did little to significantly increase the IAU contribution. It was agreed that given the small number of meetings in 1991 the IAU contribution should be increased to the level possible from 1992. It was agreed that the contribution for Colloquia should be increased to 7000 SwF. and to 14,000 SwF. for Symposia.

II.13. Publications

II.13.1. Symposia

Symposium N° 131: *Planetary Nebula*  
Ed. S. Torres-Peimbert

Symposium N° 135: *Interstellar Dust*  
Eds. J.L. Allamandola & A.G.G. Tielens

Symposium N° 137: *Flare Stars in Star Clusters, Associations and the Solar Vicinity*  
Eds. B.R. Pettersen, L.V. Mirzoyan & M.K. Tsvetkov

Symposium N° 138: *Solar Photosphere: Structure, Convection and Magnetic Fields*  
Ed. J.O. Stenflo

Symposium N° 139: *Galactic and Extragalactic Background Radiation -Optical, Ultraviolet and Infrared Components*  
Eds. S.A. Bowyer & Ch. Leinert

Symposium N° 140: *Galactic and Extragalactic Magnetic Fields*  
Eds. R. Beck, P.P. Kronberg & R. Wielebnski

Symposium N° 141: *Inertial Coordinate System on the Sky*  
Eds. J.H. Lieske & V.K. Alabakin

Furthermore, the Assistant General Secretary proposed that a note should be sent to the Editors of the Symposia Proceedings, allowing an easy identification of the Review papers, as opposed to other kinds of presentations.

II.13.2. Colloquia, Regional Meetings

Cambridge University Press

IAU Colloquium N°105: *The Teaching of Astronomy*  
Eds. J.M. Pasachoff & J. Percy

IAU Colloquium N°106: *Evolution of Peculiar Red Giant Stars*  
Eds. H.R. Johnson & G. Zuckerman

Springer-Verlag, Lecture Notes in Physics, 350  
IAU Colloquium N° 120: *Structure and Dynamics of  
the Interstellar Medium*  
Eds. G. Tenorio-Table, M. Moles & J. Melnick

The General Secretary reported that Colloquium 100 remains unpublished. The finalisation of the manuscript was substantially delayed and Kluwer refused to accept it. The editors have been advised to try ASP if Kluwer are not prepared to listen to the argument that positional astronomy dates slowly.

II.13.3. The General Secretary reported that IAU Transactions XXB were published in December 1989. Delays were experienced in obtaining Commission Reports followed by problems with the Union former computer in updating the membership list.

II.13.4. Information Bulletin 63 and 64 were published in January and July 1990 respectively. The publication of General Assembly Information in the Bulletin seemed to find acceptance. There were a number of complaints regarding the readability of the membership information on green paper. Unfortunately the current list was finally produced after the breakdown of the Union's Computer and did not achieve an acceptably black type. The problem is unlikely to occur in the future.

Concern was expressed about the time taken by Kluwer to produce IB 64. While the manuscript was delivered at the end of May, most members did not receive their copy until late July. (Kluwer admitted slowness in production but plead declining staff means there is less time there for "filler" operations).

II.13.5. The Alphabetical Membership list is available from Kluwer at \$ 29. The Executive Committee decided that the membership list should in future contain a listing of Members by Commission and by countries.

II.13.6. The General Secretary reported that the IAU Style Book had been separately published at Kluwer's expense and 500 copies are held at the Secretariat for distribution to IAU Editors. A distribution to the editors of major astronomical journals is in hand.

II.13.7. The value of the continuing publication of Transactions A, B was discussed. Letters had been received from Flower and Lambert suggesting that the effort of compiling Reports on Astronomy (Transactions A) was not concomitant with

subsequent use - they wondered who used the Reports. They also argued that the Reports must become increasingly subjective as the rate of publication is still increasing but the size of Reports is more or less static. The Executive Committee appeared to share this view, given the effective Abstracting Services available to Astronomy and the existence of readily available review journals. The General Secretary pointed out that the Reports on Astronomy was a snapshot of the whole of astronomy at a given time and that he often suggested that research students make a start with Reports in Astronomy before going to the Abstracting Services. Various suggestions to change the nature of the Reports e.g. a review of the highlights of the previous 3 years within the preview of each Commission, were discussed. The value of Reports covering the whole of astronomy was mentioned though it was considered that most review journals had a policy of covering the whole of astronomy over 5 years. The Executive Committee asked the General Secretary to write to all Commission Presidents ascertain their views on completion of the current Reports on Astronomy since no consensus could be reached.

It was agreed that whatever the situation for Transactions A. Transactions B must remain as the public record of the Union's business.

(NB: subsequently, Kluwer has pointed out that Transactions A is the Union's best selling publication and sells to members as well as institutions -someone must use it besides the General Secretary's Research Students).

#### II.13.8.

The Tender for the Union's Publications was fully discussed. Rapid Communication of Oxford were immediately ruled out as too expensive. The interesting proposal from Springer was examined carefully since they are a publishing house of distinction. Their proposal to sell Transactions directly from the Secretariat was not acceptable in view of our small full time staff. Springer did not offer an annual irrevocable royalty. The Institute of Physics Publishing house offered cheaper selling prices but their irrevocable royalty was not raised to match Kluwer. There was no doubt that Kluwer offered the best deal to the Union in terms of financial return and the benefits of continuity. The IOPP tender offered cheaper publications prices for libraries and members. The exact balance within the Executive Committee was eventually resolved in favour of accepting the Kluwer tender. A contract would now be prepared for a further 6 year period to begin on 1992 January 01. The need to get Kluwer to accept a contractual obligation for the publication of the Information Bulletin was stressed.

III. SCIENTIFIC ACTIVITY

III.1. Meetings

III.1.1. Symposia accepted

SPM No. 152 CHAOS, RESONANCE & COLLECTIVE DYNAMICAL PHENOMENA IN THE SOLAR SYSTEM, July 15-19, 1991, Angra dos Reis, Brazil.

SPM No. 153 GALACTIC BULGES, August 17-22, 1992, Ghent, Belgium.

SPM No. 154 INFRARED SOLAR PHYSICS, March 2-6, 1992, Tucson, AZ, USA.

III.1.2. Colloquia accepted

CQM No. 134 NONLINEAR PHENOMENA IN STELLAR VARIABILITY, January 7-10, 1992, Mito, Japan.

CQM No. 135 COMPLEMENTARY APPROACHES TO DOUBLE & MULTIPLE STAR RESEARCH, April 6-9, 1992, Atlanta, GA, USA.

III.1.3. Regional Meetings accepted

Although not yet approved, the site of New Delhi (1993) has been agreed. The approval will be given after receipt of the scientific programme. None

III.1.4. Cosponsored Meetings accepted

None

III.1.5. The following points were discussed:

- a) the geographical location of IAU Symposia/Colloquia in conjunction with the XXist GA;
- b) the upper limit of Registration Fees for IAU Symposia & Colloquia which has been fixed to US\$ 100;
- c) the planning of meetings with other ICSU Unions and Inter Union Committees. Unfortunately, no solution could be found;
- d) it is reported that some organisers of meetings make use of the IAU name for non sponsored meetings by the IAU, using the fact they are involved in Commissions of the IAU. Such an use is deeply regretted by the EC;
- e) the refereeing role of the Commissions in respect of proposals for IAU Symposia & Colloquia is stressed: in effect, some presidents of Commissions seem to have forgotten that their recommendations should strictly apply to the scientific content of the proposed meeting;
- f) the publication of a time schedule for planning Regional Meetings seems to be advisable, in order to allow potential countries to make relevant proposals.

The General Secretary reported that a letter had been received by Prof. M. Feast (South Africa) requesting a clear statement of the Regional Meeting area which includes South Africa. The most appropriate area is that of the Asian Pacific Meeting. Prof Feast hoped that South African Astronomers would play a more visible part in Regional Meetings in the future.

The General Secretary explained the background to the abandonment of Colloquia 118, 119 in Nanjing, China. It will be recalled that the colloquia were originally scheduled for June 1989 but had to be postponed following the events in China earlier that month. After some energetic work by their LOCs they were rescheduled for June 1990. But because of lack of interest outside China, the chairmen of both SOCs decided with great regret, that the meetings could no longer be regarded as truly international and they recommended that they should not be proceeded with. Faced with this recommendation, there was no alternative but to abandon these meetings. This outcome is most regrettable since both meetings were timely scientifically, they represented a unique opportunity to bring planetary Planetary scientists from East and West together and they represented a considerable investment of time and energy by their respective SOCs. There are signs however that new proposals for 1993 will be forthcoming.

#### III.1.6.

A proposal by the Working Group on the Swedish Resolution was that a meeting to explain Adverse Impacts on Astronomy more widely should be organised. In order to investigate the acceptability of such a proposal the General Secretary had taken soundings at ICSU and UNESCO. The response was very encouraging in that ICSU immediately offered a contribution of \$5000 for a meeting in 1992 and UNESCO offered its facilities to hold the meeting. UNESCO also indicated, more weakly, that it might be in a position to offer \$10,000 in support. The IUGG had also indicated interest and it would be the intention to involve other ICSU Unions and committees e.g. URSI and COSPAR. However, it was envisaged that IAU Commission 50 would play a leading role in organising the meeting. The character of the meeting would not be scientific but expository to explain to members of government and the public (e.g. science writers) the very real problem posed by the deterioration of the Earth's Environment for all forms of astronomical observation. There would be an attempt to get agreement to strengthen safeguards for radio frequency bands for astronomy in view of the renewed pressure for telecommunication bandwidth; to agree on more stringent shielding of outdoor lighting and its reduction at non peak times; to agree on the disposal of future spent spacecraft and to ban advertising from space. UNESCO offered to publish the proceedings of the Meeting, which if well illustrated could be a very interesting saleable book. Publication by UNESCO would mean a wide circulation through the UNESCO distribution list. The meeting should be planned for the summer of 1992. The Executive Committee agreed that an expository meeting on Adverse Environmental Impacts on Astronomy would be very useful in raising awareness of

the problems faced by astronomy. 25,000 SwF. have been included in the Draft Budget for 1992 for this Meeting. This meeting would be regarded as an IAU Contribution to the International Space Year. The Executive Committee also suggested that the Space Observatories and major International Countries should be included in the preparation of the Meeting.

The General Secretary also reported that he had been in contact with H. Haubold (a member of the Union) now serving with the United Nations. Dr. Haubold had suggested a presentation on Adverse Environmental Impacts on Astronomy before the UN Committee on the Peaceful Uses of Outer Space. A suggestion had been made that such a presentation should follow the 1992 AEI Meeting. The Executive Committee expressed the view that such contacts now developing with the UN should be maintained.

### III.2. ISYA

III.2.1. The replacement of Dr. J. Kleczek by Dr. D. Wentzel assisted by Dr. M. Gerbaldi as Secretary of ISYA with effect from the XXist General Assembly was confirmed. A vote of thanks to Dr. Kleczek should be made during the business session of the General Assembly to mark his work on the schools since 1966 -having been responsible for all 18 schools held so far.

III.2.2. The report of the 17th ISYA (1990 May 28-June 15, Malaysia) was received. The school attracted 22 participants.

The IAU Travelling Telescope received its first outing at the school where it was used together with a similar Mead Telescope of the University Kabangsaan Malaysia. There were some problems with the Travelling Telescope in that it became delayed in London during transit and on arrival needed some adjustment to cope with Malaysian temperatures. The report on the school will appear in IB 65.

III.2.3. The 18th ISYA will be held in Marakech, Morocco 1990 September 10-29. UNESCO has made a grant of \$ 10,000 towards the expenses of the school. This school will be the last to be organised by Dr. Kleczek.

III.2.4. No new proposals for ISYA have been received for 1991 and beyond.

### III.3. VLP

III.3.1. A Report on the Paraguayan VLP has been received from A.E. Troche-Boggino. The report summarised the 3rd course given at ANU Ascuncion -Galaxies and the Universe- by J.L. Sersic. The course was attended by 17 students. A bid was made to obtain the IAU Travelling Telescope for the VLP. He expressed the wish to purchase a PC for future courses in the series.

III.3.2. The General Secretary informed the Executive Committee that a PC had been purchased on VLP funds for Peru. The Executive Committee approved the request that an appropriate PC ( $\leq$  \$ 2000) should be purchased from VLP funds. The President requested some delay while he investigated the possibility of a gift of a PC to the Paraguayan VLP from Japan.

III.3.3. Prof. Sahade reported that it was proving difficult to find lecturers for the VLP Programme. It is increasingly difficult to arrange paid leave for periods such as 3 months. Clearly any lecturer has commitments at home even though VLP travel and subsistence are paid. People are also unwilling to take leave in case it jeopardises their position in their employing institutions. These are not easy problems to solve and will remain a weak aspect of the VLP scheme.

III.3.4. There were indications that the Chinese VLP was restarting. Prof. Wang had been in communication with Prof. Christensen indicating a change in priority for cooperative research programmes. Priority was now being given to extragalactic studies as opposed to infrared studies as formerly. Dr. Karachentsev and Kwan were being considered as the scientists to initiate a collaborative programme. The Committee for the Chinese VLP were unhappy about the changes in priority and the lack of information on the proposed scientist and on the Institution in China with whom collaboration would take place and the mechanism for maintaining collaboration once set up. Prof. Boyarchuk explained that the visit by Dr. Karachentsev was as an observational astronomer and was the subject of a bilateral agreement between the USSR and China. Prof. Ye explained that a Committee had been set up in China for the purpose of establishing the VLP, to identify priority areas for collaboration and to identify participating scientists both in China and abroad and to identify appropriate institutions. It was clear that there was a lack of information transfer. The Executive Committee looked forward to a better defined proposal for the Chinese VLP and hoped that the issues raised would be discussed with the IAU VLP committee so that an informed decision could be taken at the next Executive Committee meeting.

#### III.4. Working Groups

III.4.1. Prof. Sahade outlined the essential features of the Report of the Swedish Working Group. The Working Group suggested that:

- a) the IAU/ICSU should convene a conference to discuss the harmful effects of civil and military activities in space;
- b) the IAU set up a Standing Advisory Committee to examine new activities which might damage astronomy both on the ground and in space;
- c) the IAU should take a strong stand within ICSU on matters related to free exchange of technological information;

- d) National Committees for Astronomy take the necessary steps within their own countries to support these aims and;
- e) the Executive Committee to report on the steps it has taken at the next General Assembly.

The Executive Committee considered that the Adverse Environmental Impacts Meeting would meet:

- a) above and that
- b) should be tackled by extending the terms of reference of Commission 50 (Protection of Potential and Existing Observatory Sites).

The General Secretary reported that he had received a resolution from Commissions 10, 12 on the development of Nuclear Weapons in Space. The resolution was not accepted as worded on the grounds it was political, not within the scientific competence of the IAU and if there was evidence of such development the proper action was to inform the UN Committee on the Peaceful Uses of Outer Space - such development would be at variance with UN Resolutions. The Executive Committee had considerable sympathy with the spirit of the Resolution and requested the General Secretary to look sympathetically should a more appropriate worded resolution be resubmitted.

III.4.2. See III.1.6.

III.4.3. Dr. Batten introduced his Report on the activities of the Working Group for the World Wide Development of Astronomy (Report attached as Annexe X to the Minutes). The WG had been setting up its internal organisation and structure and had requested and had been allocated 2 sessions at the XXist General Assembly.

III.4.4. A report from the proposed Working Group on Astronomical Software & Communication had been received setting out the aims of the Working Group and interested people. The Executive Committee considered that while the aim were satisfactory there was a need to finalise the membership of the Working Group and to draw a clear distinction between those who would "work" and those who were "interested in the work". The Executive Committee also felt that the geographical distribution of suggested members was too narrow. No indication was given of whether or not the WG would be prepared to give assistance or advice with hardware and software. The Executive Committee however looked forward to a final proposal at its next meeting.

II.4.5. The Working Group for Planetary System Nomenclature had submitted a report giving suggested names for the satellites N1-N6 of Neptune. These names had been selected by majority, the Acting Chairman of the Working Group not being in agreement with the proposed names for N2 and N4. A protest was received by Marsden on the grounds that the suggested



names for N2, N4 had been already assigned to minor Planets and that duplication was not in the interests of clarity. The Executive Committee concurred and sent the report back to the Working Group for reconsideration.

The Executive Committee was also disturbed that a report of a meeting of the Working Group had appeared in the New Yorker and that National Geographical Society were about to publish the suggested names before the consent of the Executive Committee had been obtained. They wished that the Working Group be informed that it was inappropriate that private meetings of the Working Group should be reported in the press and that Working Group proposals remained such until after those proposals were accepted at a General Assembly. However, in the interest of practicality names could be revealed on the clear understanding that they were draft names only after acceptance by the Executive Committee in view of the 3 year interval between General Assemblies.

The Executive Committee noted, with great sadness, the death of Harold Masursky who had chaired the Working Group for 8 years. They recognised the great contribution he had made to planetary nomenclature and the service he had rendered to the Union.

The Executive Committee requested Dr. K. Aksnes to continue as Acting Chairman of the Working Group until the XXist General Assembly and to seek nominations for Chairman of the Working Group for discussion by the Working Group during the General Assembly.

III.4.6. A report was received from the proposed Working Group on Relations between Professional & Amateur Astronomers. The report suggested that the principal effort of the Working Group should be directed towards building a network between Amateur and Professional astronomers. A bulletin board might be established on a computer network to assist communication. Two meetings between Amateur and Professional Astronomers are in the course of planning -June 1991 in California and in association with the XXist General Assembly in Argentina. The Executive Committee considered that a formal proposal on terms of reference for the Working Group should be submitted at the next Executive Committee meeting.

### III.5. Debrecen Photoheliographic Results

Having received a grant of \$5,000 from ICSU to expedite the publication of the backlog of the Debrecen Results, a Committee to oversee publication composed of the Presidents and Vice-Commission's Presidents 10, 12 has been established. The current Committee is under the Chairmanship of Dr. V. Gaizauskas. On the instruction of the Chairman of this Committee, \$500 will be sent to Debrecen as each volume is sent to press. No response has been received from the Hungarian Academy of Sciences on matching the ICSU grant. Prof. E. Priest (Commission 10) has visited Debrecen and has been reassured that the backlog can be retrieved and that

the will exists to do so. The Executive Committee approved these arrangements.

Commissions 10, 12 will respond to the Executive Committee concern (Executive Committee 59) for more modern archiving methods for these results.

### III.6. GLOBMET

Commissions 16 (Marov), 20 (West) and 22 (Keay) have expressed warm support for the IAGA and IAMAP proposal in respect of establishing GLOBMET. It was believed that the maintenance of the GLOBMET Network of meteorite observations would not require finance but the IAU draft budget will contain a notional sum for 1992-94.

An inter-Union project such as GLOBMET might be the type of project that UNESCO might wish to sponsor. This suggestion has been put to IUGG (parent Union of IAGA and IAMAP).

### III.7. World Astronomy Programme

The Executive Committee received the proposal and further amplifying documents from Sir Robert Wilson for a World Astronomy Programme. The Executive Committee noted that it was originally proposed within the context of COSPAR and while it makes sense within that context, did not see an automatic extension to either optical or radio astronomy. It was considered that the IAU should not yet become involved but were prepared to reopen the matter in the future if a clear role for the IAU to play should become apparent. Funding for the project in the Draft Budget 1992-94 should remain as a line item.

## IV. INTERNATIONAL ACTIVITIES

### IV.1. ICSU

IV.1.1 The General Secretary summarised the proceedings of the 26th Meeting of the ICSU General Committee (Lisbon, 1989, October 11-14) as set out in his Report to the Executive Committee 1990.4. The main points were the ICSU grant application to UNDP on behalf of the Unions and the slow response to it (see IV.1.2) and the adoption by the General Committee of an IAU sponsored resolution on Adverse Environmental Impacts on Astronomy. The ICSU subvention to the IAU for 1990 was \$16,192.

IV.1.2. ICSU has recently informed the Unions that UNDP has, as yet (August 1990), reached no decision on the ICSU grant application. ICSU still expects a favourable response.

IV.1.3. The IAU response to a request for nominations for ICSU Officers came after the deadline for their submission to

ICSU. The Executive Committee should keep in mind that nominations can be made and should have proposals in hand so that the Union can remain active in the governance of ICSU.

IV.1.4 As a result of changes in ICSU financing, it was reported that the Union could expect a subvention from ICSU of \$20,200 in 1991 and \$21,200 in 1992. (NB: Added following 23rd ICSU General Assembly October 1990; ICSU has decided to retain Union dues -following proposals to abandon them -at the rate of 2.5% of actual subventions received from Adhering Bodies for 1991, 1992 but rising to 3.5% in 1993 -this will reduce the Union's overall expectation from ICSU to \$ 6,000 in 1993 and 1994 or about \$2,000 under the current standard grant of \$8,192. The situation regarding the return of Union dues after a two year interval is not clear but the impression is that return of dues is not envisaged in the future.)

IV.1.5 The International Union for Vacuum Science, Techniques and Applications is seeking Associate Status within ICSU and has requested IAU support. The Executive Committee agreed to support IUUSTA in its application.

The General Secretary reported that the ICSU Committee for the Free Circulation of Scientists had drawn the attention of the IAU to a refusal by the Netherlands of a visa for a South African physicist to attend an EPS meeting on nuclear physics. No visa difficulties had been experienced at the COSPAR General Assembly and no problems are expected in respect of the XXIInd General Assembly in 1994.

#### IV.2. UNESCO

UNESCO awarded the 18th ISYA (Morocco) \$10,000 see III.4.2.

IV.2.2. UNESCO has warmly welcomed the IAU initiative for a meeting on Adverse Environmental Impacts on Astronomy and has made available an auditorium, help in contacting governments, publication of proceedings and perhaps additional financial support. See also III.2.3.

IV.2.3. UNESCO are supporting a new venture -the Southern Europe Science School, together with EPS and the EEC. Raither has suggested that the IAU could run an ISYA under such auspices.

#### IV.3. COSPAR

IV.3.1. see under III.1.5c

IV.3.2. The General Secretary attended the first session of the Executive Committee of COSPAR at its 28th Plenary Meeting in the Hague June/July 1990 and the IAU was represented by Prof. L. Perek at its second session. The meeting is reported in Report to the Executive Committee 1990.11. The main points raised were planning for the COSPAR/IAF World Space Congress August 1992 (Washington DC) and the revision of COSPAR Charter and Bye-Laws.

IV.3.3. The General Secretary reported that no proposals had been received from the Executive Committee in respect of the newly instituted Massey and Vikram Sarabhai Medals.

IV.4. FAGS

IV.4.1. The increased IAU subvention to FAGS in the Draft Budget 1992-1994 were approved.

IV.4.2. Prof. E.A. Tandberg-Hanssen has taken over the Chairmanship of FAGS from Prof. P. Melchior.

IV.5. Data Centres

IV.5.1. Prof. C. Jaschek has reported that CDS-Strasbourg and NASA (GSFC) have collaborated to place a selection of the most useful parts of the Astronomical Data Centres' Catalogues on CD-roms. The Roms will be available in mid-1991 and will be useful in astronomical education and to astronomers in the Developing World unable to access the Data Centres directly.

Support for this project (\$5,000) has been sought under the ICSU UNDP grant proposal and a proposal to advance \$1,000 to NASA from IAU funds to help defray distribution costs was confirmed.

IV.5.2. The Executive Committee accepted a proposal from Prof. Jaschek that the IAU should form a Working Group on Data Centres reporting directly to the Executive Committee. The Executive Committee requested Prof. Jaschek to prepare Guidelines, which permit good communication with Commission 5, for such a Working Group to be presented to the 61st Executive Committee meeting. It was pointed out that the list of Data Centres supplied was not exhaustive.

IV.6. European Physical Society

J.-P. Swings reported that a charter for a European Astronomical Society had been drawn up and that some 500 astronomers had agreed to become Founder Members. The Society would be formally instituted at the 12th IAU European Regional Meeting in Davos (October 1990) and would need to proceed to elect a Council to govern the new Society.

IV.7. URSI

A resolution was received from URSI deploring the pressures from radio-telecommunications on the reserved radio astronomy frequency bands.

IV.8. WMO

It was agreed that a Union representative might be sought at the World Meteorological Organisation. The WMO were keen to have a member and, although the WMO is an inter governmental organisation such representation could be useful to the Union during the current period of global climatic change studies. Prof. G. Wallerstein or Dr R. Martin (Tucson) were suggested as people to approach in the first instance.

V. Other Business

V.1. The date of Executive Committee 61 will be 1991 July 21, 22, 30 at Buenos Aires. Executive Committee 62 will be held immediately following the final session of the General Assembly in the afternoon of 1991 August 01.

V.2. No member of the Executive Committee had any other business.

VI. CLOSURE

The 60th Meeting of the Executive Committee was closed by the President who expressed his thanks and those of the Executive Committee to Prof. R. Kippenhahn for the hospitality of the Max Planck Institut für Astrophysics and to Prof. and Mrs. Kippenhahn for their personal hospitality. The President also thanked Ms. Cornelia Rickl for her support of the Executive Committee both in making arrangements for the Executive Committee both before and during its meeting. Thanks were expressed to Prof. H. van der Laan for the reception by ESO and to Dr. R. West for his tour of ESO facilities. The Executive Committee enjoyed a day trip to Salzburg arranged by Prof. Kippenhahn.