

INTERNATIONAL ASTRONOMICAL UNION
UNION ASTRONOMIQUE INTERNATIONALE

Forty-fifth Meeting of the Executive Committee
Université de Montréal, Montréal, Canada
Sunday, 12 August - Tuesday, 21 August 1979

P R O C E E D I N G S

The 45th meeting of the Executive Committee of the International Astronomical Union took place in Pavilion 3200 of the Université de Montréal, Montreal, Canada, on 12, 13 and 21 August 1979.

Present were:

Prof. A. Blaauw	President
Prof. Ch. Fehrenbach	Vice-President
Dr D.S. Heesch	Vice-President
Prof. W. Iwanowska	Vice-President
Academician E.K. Kharadze	Vice-President
Prof. S. van den Bergh	Vice-President
Prof. Edith A. Müller	General Secretary
Prof. P.A. Wayman	Assistant General Secretary
Prof. G. Contopoulos	Adviser, former General Secretary
Prof. L. Goldberg	Adviser, former President
Dr A. Jappel	Executive Secretary
Mrs J. Dankova	Secretary

Vice-President J.G. Bolton was prevented by illness from attending.

Introductory Note:

The report has been prepared in the order of the items overleaf in the summary list of the agenda. The documents related to the agenda and distributed before the meeting have not been included in the present report; they will, however, be kept in the files of the Union for further reference.

A G E N D A

1. Opening by the President

INTERNAL MATTERS OF ADMINISTRATIVE NATURE
2. Approval of the report of the 44th meeting of the Executive Committee and of the agenda.
3. Future IAU Officers - Report of the President
4. Report of the General Secretary
 - (a) 1982 and future General Assemblies
 - (b) Administration
 - (c) Finances
 - (d) Arrangements for the General Assembly
5. First session of the General Assembly - consideration of agenda
6. Special meetings during the General Assembly
 - (a) Brief for the meetings of Presidents of Commissions
 - (b) Brief for the meetings of representatives of Adhering Countries
7.
 - (a) Report by the President on the negotiations with mainland China
 - (b) New Adhering Countries, report by the General Secretary
8. New Members of the IAU
The list of proposed new Members is given separately. It will be brought before the Nominating Committee for comment, prior to the final approval by the Executive Committee.
9. Resolutions
 - (a) Resolution proposed by the Executive Committee
 - (b) Resolutions proposed by Adhering Countries
 - (c) Resolutions proposed by Commissions
10. Commissions
 - (a) Mergér of Commissions 16 and 17
 - (b) Renaming of Commission 26 to "Double and Multiple Stars"
 - (c) Nomination of Presidents and Vice-Presidents of Commissions and WGPSN
 - (d) Composition of Organizing Committees of Commissions
 - (e) Approval of new Commission members
11. Future Special Nominating Committee
12. IAU Finances
 - (a) Financial accounts and budget for 1979
 - (b) Comprehensive budget for 1980-1982
 - (c) Unit of contribution
 - (d) Financial authority to the incoming General Secretary-recommendation to the new Executive Committee
13. Publication policy

SCIENTIFIC ACTIVITY

14. Symposia - past and future
15. Colloquia - past and future
16. Cosponsored scientific meetings
17. Regional meetings
18. Other Scientific meetings

RELATIONS WITH OTHER ORGANIZATIONS

19. ICSU
 - (a) Report by the General Secretary on meetings and developments (ICSU and the Unions)
20. Other Organizations (MERIT, CCMP, FAGS, IPMS)
21. Representation - report by the General Secretary

FINAL MEETING

22. Re-discussion of items adjourned from previous sessions
23. Resolutions adopted by Commissions not, however, by the Resolutions Committee
24. Report on meetings of the Finance and Nominating Committee
25. Any other matter
26. Next meeting of the Executive Committee
27. Closing by the President

I. *Opening by the President*

The President, Professor A. Blaauw, opened the meeting on Sunday, 12 August 1979, at 10.30 with a word of welcome to those present. He regretted the absence of Vice-President J.G. Bolton who was unable to attend for reasons of health.

II. *Internal Matters of Administrative Nature*

2. The minutes of the 44th meeting of the Executive Committee, as circulated to the members and advisers, were approved with the following amendments:

Page 5, point II.3, second paragraph, last sentence to read: "The discussion that ensued led to the conclusion that it is desirable to have the Southern Hemisphere represented."

Page 5, last 3 lines to read: "...establishment of the permanent secretariat of the Union on the premises of the Observatoire de Paris. Her efforts had not yet, however, led to satisfactory results."

Page 6, line 3 from above, to read: "...office, badly needs repair."

Page 6, line 5 from above, to read: "...of Universities seemed not prepared..."

Page 6, first line of second paragraph to read: "On the suggestion of Dr J. Delhaye, Director of INAG, the General Secretary..."

Page 6, last 3 lines of paragraph 2 to read: "...disadvantage of being rather isolated, being more expensive as regards maintenance, and also requiring repairs."

Page 13, point 7f, second paragraph, third line to read: "...Dr Baum to evaluate the role of the Centre. Two replies..."

Page 14, point 7g (i) to read: "...that the Minor Planet Center had been moved to the Smithsonian Observatory after having been directed during many years, and very ably, by Dr P. Herget; and..."

Page 15, second paragraph from bottom, to read: "The Assistant General Secretary said that he might become in a position to obtain an invitation to visit China."

Page 19, point 10a to read: "The budget-estimate of the IAU for the next term of office was approved as follows:"

Page 22, last 4 lines in point 11b. to read: "...some Commissions reports were too congested. A sample of the computerized alphabetical list of IAU Members to appear in Transactions XVIIIB was inspected."

Page 25, point 13, second paragraph, to read: "European Regional Meeting in Yugoslavia, Belgrade, July - August 1981, or Dubrovnik, October 1981."

Page 25, first 3 lines of last paragraph to read: "Prof. van den Bergh and Prof. Iwanowska proposed that a stand by should be considered..."

Page 31, point 23, from second sentence on to read: "It was felt that visits of the members of the Executive Committee would be welcome in China. Prof. Wayman said that he expected to be invited to China and that he would go there as Director of the Dunsink Observatory. The President considered

the possibility of his going to China early in 1979 and felt that an immediately following visit to Taiwan might be useful."

3. Future IAU Officers. The President announced the names of the future officers of the IAU, proposed by the Special Nominating Committee, as follows:

President:	Prof. M.K.V. Bappu, India, 1979-1982
Vice-Presidents 1979-1985:	Dr M.W. Feast, South Africa Dr L. Kresak, Czechoslovakia Prof. R. Wilson, United Kingdom
General Secretary:	Prof. P.A. Wayman, Ireland, 1979-1982
Assistant General Secretary:	Dr R.M. West, Denmark, 1979-1982

4. Report of the General Secretary

- (a) 1982 and future General Assemblies

The General Secretary regretfully informed the meeting that the President of the Bulgarian Academy of Sciences, Prof. Bliznakov, had withdrawn the invitation to host the XVIIIth General Assembly of the IAU in Sofia, Bulgaria, in 1982. This withdrawal was a surprise, as the General Secretary had visited Bulgaria earlier in the year and found the Bulgarian colleagues enthusiastic and eager to cooperate. She had also visited the buildings to be used and had found them satisfactory.

In view of this development, the General Secretary endeavoured to contact colleagues in Liège, Belgium, and in Madrid, Spain, to ask them whether there would be a possibility of holding the XVIIIth General Assembly in one of these countries. Unfortunately, during July/August little progress could be made, due to vacations.

An earlier suggestion by Prof. Bappu to hold the XVIIIth General Assembly in India 1982 had not been followed up because of the Union's commitment to Bulgaria. After withdrawal of the Bulgarian invitation, in July 1979, it was too late to reopen negotiations with the Indian authorities for a renewal of the Indian invitation for 1982; Prof. Bappu is, however, hopeful that such an invitation will be forthcoming for 1985. For the same year there is a standing invitation to hold the XIXth General Assembly in the U.S.A. Also contacted were Mexico and Israel. Both countries would be happy eventually to host an IAU General Assembly, but are not ready for it as yet.

Prof. Fehrenbach suggested that it might be convenient to contact another eastern country, and Prof. Goldberg proposed The German Democratic Republic as a good choice. According to the President, Greece would be another suitable country.

(b) Administrative Matters

The General Secretary said that the present staff would move to Czechoslovakia after the XVIIth General Assembly and thus terminate their employment with the IAU. The new permanent secretariat of the Union would have its seat in the Pavillon Ouest, 61, avenue de l'Observatoire, 75014 Paris, France. The Pavillon is now in a good state of repair thanks to the generous financial aid of the French Ministry. The new staff is to consist of Mrs. B. Manning, Secretary and Ms. P. Smiley, typist. Both are perfectly bilingual. Work will start on 17 September 1979, and by that time all documents and archives should have arrived from Lausanne, Montreal, Belgium and Czechoslovakia. The General Secretary suggested that the IAU express its thanks to the Observatoire de Paris for placing the Pavillon at the disposal of the IAU free of charge, and for the present of an IBM typewriter from the Collège de France.

(c) Finances

The accounts of the IAU in the U.S.A., in Switzerland, and in Holland will be maintained. They showed the following balances as at 30 June 1979:

	<u>Swiss francs</u>
Current account, Chemical Bank, New York, U.S.A.....	87 023.54
Current account, Amsterdam-Rotterdam Bank, Utrecht, The Netherlands.....	14 735.93
Current account, Union de Banques Suisses, Lausanne, Switzerland.....	237 340.06
2 Savings accounts, Provident Institution for Savings, Boston, U.S.A.....	83 187.73
2 Savings accounts, Union de Banques Suisses, Lausanne, Switzerland.....	101 512.60
Savings account, Bowery Savings Bank, New York, U.S.A.....	43 793.15
Savings account, Washington Lee Savings Bank, McLean, U.S.A.....	39 792.32
Savings account, Amsterdam-Rotterdam Bank, Utrecht, The Netherlands.....	93 504.39
	<u>Total: 700 889.72</u>

About 170 grants will be distributed by the IAU to participants in the General Assembly. This has become possible mainly thanks to a donation of \$25 000.-- U.S. by the Franklin Mint Corporation. Moreover, the Canadian Local Organizing Committee agreed to waive the registration fee for participants financially subsidized by the IAU. The IAU grants are proportional to the distance between Montreal and the grantees' home countries.

Another contribution to the General Assembly was the assistance with air tickets by Canadian Pacific Airlines.

(d) Arrangements for the General Assembly

The General Secretary said that her collaboration with the Canadian local organizers had been agreeable and fruitful. The General Assembly would be interesting with a very rich scientific Program. There will be three Invited Discourses, eight Joint Discussions and a large number of Commission Meetings and Joint Commission Meetings. The General Secretary had inspected the arrangements and the various facilities and had found them satisfactory.

5. First Session of the General Assembly-consideration of the Agenda

It will be necessary to appoint official interpreters. The Executive Committee proposed Prof. Serge Demers as interpreter from English to French and Dr René Racine as interpreter from French to English. It puts forward Dr P. Ledoux as Chairman of the Nominating Committee, Dr P. Wild as Chairman of the Finance Committee and Prof. F. Graham Smith, Prof. B. Hauck and Prof. M. Peimbert* as Members of the Resolutions Committee, with F.G. Smith as Chairman. Dr A.A. Boyarchuk, Dr J.A. Graham and Dr J.L. Locke were proposed to act as tellers.

6. Special Meetings during the General Assembly

It was agreed that the following special meetings would be held in the course of the General Assembly:

(a) Presidents of Commissions will meet twice, the first time on Tuesday, 14 August at 8.15 (Briefing Session), and for the second time on Monday, 20 August at 17.30 with the following Agenda:

First Meeting

Establishment of list of Acting Commission Presidents
Election of 12 candidates for the Special Nominating Committee
Establishment of lists of Commission members, Presidents, Vice-Presidents, and Organizing Committees
Working Rules of Commissions
Reports on Astronomy 1979
Other items

Second Meeting

Transactions XVIIIB and their production
Reports on Astronomy 1982
Collection of finalized lists of Commission members
Items proposed by Commission Presidents
Other items

(b) Meeting of the Nominating Committee: It will take place in the Pavillon on Tuesday, 14 August, at 15.30 with the following agenda:

Election of the Chairman of the Nominating Committee
Recommendations to the Executive Committee as regards new IAU Members (list A)
Presidential Proposals for new IAU Members not accepted by National Committees (list B).
Report on deceased and deleted Members (list C).
Election of 4 Members into the Special Nominating Committee

(c) Meeting of the Finance Committee: There will be two meetings, one in the Pavillon on Tuesday, 14 August at 17.00, the other in Esterel on Saturday, 18 August at 14.30.

*N.B. Owing to an error Dr A.A. Boyarchuk was proposed in place of Prof. Peimbert at the 1st General Assembly and so accepted as a member of the Resolutions Committee.

The proposed agenda is as follows:

Election of Chairman and members of Finance-subcommittee
Chairman's remarks
Accounts for 1976-1978
Budget for 1979
Budget for 1980-1982
Investments

(d) Meetings of national representatives to vote in the General Assembly, to be held in Estérel on Saturday, 18 August, at 16.15, with the following agenda:

Opening by the President of the Union
Report on the meeting of the Nominating Committee
Report on the meeting of the Finance Committee
Discussion of Budget for 1980-1982 and of proposed unit of contribution
Prediscussion of matters to be voted on during the second session of the General Assembly, such as

- resolutions
- members of the Executive Committee
- Presidents of Commissions
- applications of countries for IAU membership

Any other matters-motions from the floor

7. Report of the President on China and Report of the General Secretary on New Adhering Countries

(a) The Members of the Executive Committee had been informed by correspondence of the negotiations with both mainland China and Taiwan, as regards the re-establishment of the membership of the Chinese Democratic People's Republic in the IAU. They had also been informed of the results of Prof. P.A. Wayman's visit to mainland China.

At present there are two delegations in Montreal, one from mainland China and one from Taiwan.

The name-list of the delegation of the Chinese Astronomical Society is as follows:

Leader: Professor Y.C. Chang (Zhang Yuzhe), CAS President,
Purple Mountain Observatory,
Academia Sinica, Nanking, China

Deputy Leader: Professor Zhao Xianzi, CAS General Secretary,
Purple Mountain Observatory,
Academia Sinica, Nanking, China

Members: Professor Ye Shuhua, CAS Vice-President (female)
Shanghai Observatory,
Academia Sinica, Shanghai, China

Professor Hong Siyi, Deputy Director of the Peking Observatory, Academia Sinica, Peking, China

Professor Yi Zhaohua, Department of Astronomy,
Nanking University,
Nanking, China

Mr Zhu Jinning, Member of staff, Bureau of Foreign Affairs, Academia Sinica, Peking, China

The Taiwanese delegation consists of:

Chun-Shan Shen
Chan-Shian Tsai
Tsu-Wei Nee

The discussions held with each delegation separately developed very smoothly and led to the following draft proposal:

The Chinese Astronomical Society (Nanking) and the Astronomy Union of Taiwan (Taipei), whose delegates have convened at Montreal, Canada on August 11, 1979;

considering that all chinese astronomy should participate in the IAU and that this participation should be established through the full adherence of China, embracing both the mainland and Taiwan;
considering also that eventually this adherence should be established through a common chinese astronomical society;
in view, however, of the present circumstance that measures of a temporary character have to be introduced to realise complete Chinese participation;

(i) propose to the IAU General Assembly, that for the time being dual membership should be introduced, the adherence and the adhering bodies specified as:

CHINA: Chinese Astronomical Society (Nanking)
Chinese Astronomy Union (Taipei);

(ii) propose that for the time being the financial contribution of China be composed of one component due from the Chinese Astronomical Society (Nanking) and one component due from the Chinese Astronomy Union (Taipei);

(iii) propose (formulation to be worked out for the organization of the delegation at future General Assemblies in the context of the dual adherence).

Dual membership does not exist in the Statutes of the Union, but, in the opinion of the Executive Committee, is acceptable as a provisional solution. The Executive Committee therefore agreed that there is no need to revise the Statutes for this temporary solution. During the talks between the two delegations there remained a difficulty concerning the name to be adopted by the Taiwan adhering organization. Further discussion on this topic was expected.

Prof. Iwanowska, Prof. Goldberg and Prof. Contopoulos congratulated the President, the General Secretary and the Assistant General Secretary on the progress achieved. The President said that the Union seemed to have got further in the negotiations with the two Chinas than any other Union. The progress of the International Union of Biochemistry was being closely followed.

(b) New Adhering Countries

The General Secretary informed the meeting that there was only one application by a country for adherence before the General Assembly, that of Indonesia. The General Secretary expressed her appreciation of Dr Hidajat's efforts. As regards the adherence of Nigeria, no definite application had yet been received. Prof. v.d. Bergh inquired about the application of Saudi Arabia for membership. He was informed by the General Secretary that no application had arrived, although Prof. Aly had been duly informed of the modalities for formal application.

8. New Members of the IAU

The applications for individual membership in the IAU, duly supported by the National Committees, had been entered in list A. which will be submitted to the Nominating Committee for discussion. Proposals by Presidents of Commissions for admission to individual membership which have not the support of the National Committees have been summarized in list B for decision by the Nominating Committee. List C gives the deleted and deceased Members.

Inactive Members should be encouraged to withdraw from the IAU.

The possibility of introducing the status of emeritus Members might be taken into consideration.

9. Resolutions

(a) Proposal by the Executive Committee

(i) The proposal to change Statute 18.a* is an administrative question that does not involve the budget of the Union and becomes valid if approved by 2/3 of the votes of Adhering Countries, each having one vote.

(ii) The proposal now before the General Assembly is to the effect that the present unit of contribution of Sfrs. 1 465.-- be maintained.

(iii) The proposal of the Executive Committee to continue the grants to Commissions Projects will first be dealt with by the Finance Committee.

Prof. Iwanowska suggested that the Executive Committee should accept the British amendment to the last sentence to Statute 18.b, in the motion of the Executive Committee to be presented to the General Assembly. This suggestion was carried unanimously so that the last sentence of Statute 18.b in the E.C. proposal now reads as follows: "It submits Reports on these matters to the General Assembly for approval of the account and decision on the budget."

(b) The proposals of Adhering Countries, as in the Agenda of the General Assembly, will be referred to the Resolutions Committee. It was felt, however, that at the Second Session to the General Assembly, the opinion of the Executive Committee on the French motion to extend the interval between General Assemblies to 4 years should be available; also that the Swedish proposal that the IAU should establish a number of fellowships for students in astronomy from developing countries should be deferred to

* as provided for in the Agenda of the General Assembly.

the next session of the 45th meeting of the Executive Committee.

(c) The resolutions proposed by Commissions and the WGPSN were referred to the Resolutions Committee.

10. Commissions

The General Secretary read the proposal of Commissions 16 and 17 to merge these two Commissions and the proposal of Commission 26 to change its name from "Double Stars" to "Double and Multiple Stars". The General Secretary then read the list of proposed new Commission Presidents and Vice-Presidents.

Prof. Contopoulos pointed out that K.C. Freeman has been proposed as Vice-President for Commission 33 and 37 which should be avoided. Prof. v.d. Bergh emphasized that it would be impossible to decide on the composition of the Organizing Committees before all Commissions had met during the General Assembly.

The General Secretary then read a letter by Prof. Trefftz, saying, as President of Commission 14, that the production of camera-ready type-scripts by the secretaries of the astronomical institutions of the Presidents of Commissions in question is too expensive. It was noted that this was the only complaint received recently as regards production of camera-ready copies.

The slates of general members of the IAU Commissions will be ready for the second session of the present Executive Committee.

11. Election of One Member into the Future Special Nominating Committee

The General Secretary explained to the Executive Committee the procedure of electing 4 Members for the SNC by the Nominating Committee. First, each President of Commission had been asked to suggest twelve names. From the names obtained, a list of 36 candidates was set up from which Presidents of Commissions elected, at the briefing session, 12 candidates for the Nominating Committee as a basis for the appointment of the 4 members of the Special Nominating Committee.

The General Secretary then suggested that the appointment of the one member of the SNC to be elected by the Executive Committee should be deferred until after the election of the 4 members by the Nominating Committee.

12. Finances

The General Secretary introduced the estimate of the budget for the year 1979 as published on pages 37 and 38 of Information Bulletin No. 42. This budget provides for payments which total about Sfr. 24 000.-- less than the residuum of the budget approved by the XVith General Assembly. Asked by the President whether this budget is sufficient

up to the end of 1979, the General Secretary answered that the expenses of the Administrative Office are amply covered even though they include the salaries of the present staff until the end of October 1979, the salaries of the new staff in Paris from 17 September 1979 on, the moving expenses of the present staff to Czechoslovakia, the transport of the Lausanne Office, and of the archives from Belgium and Czechoslovakia to Paris, telephone, telegraph and mailing charges in Paris and the travel expenses of the future General Secretary to Paris. The Sfr. 3 000.-- under Commission expenses are earmarked for the production of the camera-ready manuscript of Dr Kleczek's multilingual astronomical dictionary. This project has been strongly supported by the President of Commission 5.

From the total of Sfr. 200 000.-- for the General Assembly about \$Can. 1 000.-- will have to be paid for the hall in the Queen Elizabeth Hotel, Montreal, as the IAU did not fill 400 rooms, a condition for having the hall free of charge for the three Evening Discourses. As regards the draft comprehensive budget for the years 1980-1982, the General Secretary said that the version now in the hands of the Executive Committee is the latest revision of the draft which became necessary after the July ICSU Council meeting. This allocated to the Union \$8 000.-- instead of \$6 000.-- as originally considered and agreed to a number of ICSU/UNESCO contracts to the total amount of another \$8 000.-- for 1980. The General Secretary emphasized that applications for ICSU/UNESCO contracts will have to be submitted for 1981 and 1982 individually.

The General Secretary then presented the Draft Budget as follows:

Comprehensive Draft Budget of the IAU
for the years 1980-1982

Unit of contribution 1 465.-- Swiss francs
(one Swiss franc equals 0.2175926 gr. of fine gold)

Receipts in Swiss francs		Payments in Swiss francs	
1. Contribution from Adhering Countries	966 900.--	1. Administrative Office	
2. Revenue from the IAU publications	51 000.--	1.1 Secretariat in Paris	380 000.--
3. Interest on accounts	82 000.--	1.2 Secretarial help for the General Secretary & Assistant General Secretary	30 000.--
4. UNESCO contribution through ICSU & UNESCO contracts 1980	47 040.--	1.3 Furniture, Typewriters	20 000.--
Total receipts	1 146 940.--	2. Subscription to ICSU	24 200.--
Total payments	1 146 050.--	3. Commission expenses	15 000.--
Excess of receipts overpayments	890.--	4. Projects of Commissions	
		4.1 Exchange of Astronomers	58 000.--
		4.2 Teaching of Astronomy	3 000.--
		4.3 Other projects	32 850.--
		5. General Assembly	140 000.--
		6. IAU publications	55 000.--
		7. Publications for Executive Committee & developing countries	49 000.--
		Sub-total:	807 050.--

		Sub-total:	807 050.--
Payments under item 4.3 (Other projects of Commissions)		8. Executive Committee meeting	60 000.--
Commissions and Projects	Sfr.	9. Officers' meeting	21 000.--
6. IAU Telegram Bureau	5 700.--	10. Symposia & Colloquia	138 000.--
16. Planetary Documentation	5 310.--	11. Inter-Union Commissions	20 000.--
17. Lunar Documentation	5 310.--	12. Project of the Executive Committee	13 000.--
20. Minor Planet Center	7 200.--	13. Representation	20 000.--
27. Variable Stars Catalogs	9 330.--	14. Bank charges	1 000.--
	TOTAL: 32 850.--	15. Young astronomers' schools	37 000.--
		16. Regional meetings	24 000.--
		17. Expenses of Special Nominating Committee	5 000.--
		TOTAL PAYMENTS	<u>1 146 050.--</u>

The General Secretary provided the following explanations to the individual items of the proposed Budget:

Receipts:

1. Contribution from Adhering Countries

The figure under this item has been obtained by multiplying the unit of contribution, as approved by the XVith General Assembly, by three times the number of units of contribution payable to the IAU by Adhering Organization every year, that is,

$$\text{Sfr. } 1\,465.-- \times 3 \times 220 = \text{Sfr. } 966\,900.--$$

2. Revenue from publications

Utmost caution is indicated for this item of the budgetary forecast. The sources of income from sales of publications are:

- (a) Royalties from the Reidel Publishing Company (5%)
- (b) Partial reimbursement of costs of publications sent to developing countries
- (c) Royalties from Academic Press for sales of publications issued until 1967
- (d) Royalties from University Microfilm Ltd. for sales of "Bibliography of Astronomy".

Items (c) & (d) only represent an income of about 100.-- to 400.-- Sfr. a year which, moreover, is petering out. The yearly average of reimbursements by institutions of developing countries, item(b), is about Sfr. 400.--, which is negligible.

The revenue from all sources was as follows for 1976 through 1978 (in Swiss francs):

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>Yearly average</u>
29	331.75	27 205.28	21 163.69	25 900.24

Payments from Reidel arrive, as a rule, one year after effected sales. The royalties from Reidel actually accrued in the year of sales were as follows for the years 1976-1978:

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>Average</u>
14	541.--	20 495.--	16 353.--	about 17 130.--

IAU publications sold (in number of volumes)

	<u>Yearly average</u>
1973-1975: 15,459	5,153
1976-1978: 8,963	2,988

In view of the fact that the volume of sales of IAU publications depends on a number of variable facts, (e.g. number of meetings held, attractiveness of subject matter dealt with, policy of astronomical libraries, inflation, varying rates of exchange) it is recommended to estimate the yearly income from them at not more than Sfr. 17 000.--.

3. Interest on accounts

The reserves of the Union on savings accounts were at the end of 1978: (in Swiss francs - interest in brackets)

<u>Amro Bank</u>	<u>U.S. Savings Banks</u>	<u>Union de Banques Suisses</u>
93 504.--	166 723.--	101 512.--
(5.5%)	(6.425% until July 1979, 9.409% from then on)	(3.5%)

Payments:

1. Administrative Office

Item 1. "Administrative Office", is divided into 1.1 "Secretariat in Paris", 1.2 "Secretarial help for the General Secretary and the Assistant General Secretary", and 1.3 "Furniture, Typewriters". The budget for the office in Paris includes:

- (i) the salaries and social charges of a qualified secretary and typist, both full-time and both perfectly bilingual;
- (ii) the travel expenses of the General Secretary to Paris, and
- (iii) the expenses for mail, telephone, telegrams, production of multicopies, office material, electricity, heating, etc.

There are some items which in the past had been paid by the institute of the General Secretary that can no longer be charged to the host institute, the seat in Paris being a permanent one. Financial allowance for the General Secretary and the Assistant General Secretary was felt necessary inasmuch as in future one cannot expect that the institutions of the General Secretary provide all secretarial help required for their additional work during their terms of office. Furniture, typewriters, etc. are a long-term investment necessary at this time.

2. Contributions to ICSU

This item is 2.5% of the dues paid to the Union by adhering countries.

3. Commission expenses

Total expenditure under this item was Sfr. 3 353.72 in 1977 and 1978. This, however, is not the true picture of effective Commission expenses, as it does not include the \$5 000.--US awarded by UNESCO (through ICSU) towards the site-testing programme of Commission No. 50. It is reasonable to assume that this programme will continue over the next term of office. Moreover, the activity of Commissions is expanding and many of them will need financial support; for example, for the publication of Newsletters, participation in projects concerning their specific domain, and the like. It is therefore recommended to provide Sfr. 15 000.-- for Commission expenses in the budget for 1980-1982.

4. Projects of Commissions

4.1 Exchange of Astronomers

Commission No. 38 only spent Sfr. 17 365.50 in the years 1977, 1978 on grants to astronomers wishing to study or to continue their research work in other than their home countries. This, however, must not be considered prejudicial to the years to come. It should be emphasized that the project Exchange of Astronomers is one of the most important items in the IAU Budget, as it helps raising the scientific level of astronomy in all parts of the world. Thus the amount of Sfr. 58 000.-- is considered to be insufficient. UNESCO contracts through ICSU will therefore be negotiated.

4.2 Under the same heading 4, an additional item has been introduced, namely item 4.2 "Teaching of Astronomy", for supporting the triennial publication of the list of Astronomy Educational Material (AEM). Here also UNESCO contracts will be taken into consideration.

4.3 The expected payments are specified in a table accompanying the draft budget.

The grants to:

Commission 6 (Telegram Bureau), 16 (Planetary Documentation), 17 (Lunar Documentation), and 20 (Minor Planet Center) have been increased in response to the proposals of the Presidents of the Commissions in question.

Commission 4 (Ephemerides) has not proposed to continue the grant paid so far.

5. General Assembly

The estimate of Sfr. 140 000.-- is by about Sfr. 6 000.-- higher than that for the Montreal General Assembly, as it accounts for the rising cost of transport and accommodation and the travel expenses of the proposed new members of the Executive Committee (new President, 3 Vice-Presidents, and the Assistant General Secretary).

6. IAU Publications

The amount of Sfr. 55 000.-- only covers the production and distribution of the IAU Information Bulletin. For nos. 38 and 39 the invoices were Sfr. 8 619.-- and 10 140.-- respectively, giving an average of Sfr. 9 165.--. This, if multiplied by 6, results in Sfr. 54 990.-- for 3 years.

7. Publications for UNESCO, the Secretariat, the members of the Executive Committee, and for developing countries
The Sfr. 49 000.-- are to cover payments for courtesy copies to UNESCO, the Secretariat, the members of the Executive Committee and the Chairman of Scientific Organizing Committees of Symposia, as well as the costs of IAU publications purchased by the IAU and sold to selected institutions in developing countries at reduced prices. The adequacy of the amount in the draft budget will largely depend on the number of publications to appear during the next term of office. UNESCO contracts through ICSU for 1980 have been negotiated for financing the purchase of IAU publications to be sent to institutions in developing countries. For 1981 and 1982 new applications will have to be submitted.
8. Executive Committee
The amount, as in the draft budget, is by Sfr. 1 000.-- higher than in the present budget, taking into account higher costs of transport and accommodation. It is to cover the expenses of meetings of the Executive Committee in 1980 and 1981. The costs of the two meetings of the Executive Committee in 1982 are included in the estimate for the XVIIIth General Assembly.
9. Officers' meetings
Three Officers' meetings are expected to be held during the next term of office, each requiring about Sfr. 7 000.-- for travel and living expenses of the Officers and a staff member.
10. Symposia and Colloquia
Symposia are subsidized with Sfr. 5 400.-- each, Colloquia with Sfr. 2 500.-- each. The amount of Sfr. 138 000.-- allows for a total of 18 Symposia at Sfr. 6 000.-- each and 10 Colloquia at Sfr. 3 000.-- each, during 1980-1982, or some other combination.
11. Inter-Union Commissions
The Union contributed Sfr. 10 679.28 to Inter-Union Commissions in 1977 and 1978. The draft budget provided Sfr. 20 000.--, taking into consideration minor increases. On the other hand, if the IAU is to include in its budget a contribution to FAGS, the estimate under this item will have to be radically revised.
12. Projects authorized by the Executive Committee
The Sfr. 13 000.-- under this item are to cover unforeseen expenditure for projects that may become necessary during the next term of office.
13. Representation
Sfr. 5 795.35 and 3 802.83 were spent on representation in 1977 and 1978 respectively. Experience has shown, however, that representation expenses are increasing due to the reluctance of the parent institutions of IAU representatives to contribute towards their travel and living costs with journeys made in the interest of the IAU.

14. Bank charges
They amount, on the average, to Sfr. 300.-- a year, and are unlikely to increase. The amount of Sfr. 1 000.-- as under this item is therefore adequate.
15. Young Astronomers' Schools
Two such schools, each to cost the Union Sfr. 15 000.--, are planned for the years 1980, 1981. The amount is too small to permit the organization of schools the IAU used to run. A UNESCO contract through ICSU of \$4 000.-- has been allocated for the 1980 Young Astronomers' School. For 1981 and possibly 1982 new applications for such UNESCO contracts will have to be submitted.
16. Regional meetings
A contribution of Sfr. 6 000.-- has been allocated to each regional meeting. Thus the amount of Sfr. 24 000.-- allows for 4 regional meetings in the course of the next term of office. It is hoped that UNESCO contracts through ICSU will be obtained to allow more such meetings.
17. Expenses of the Special Nominating Committee
This item has been added to the draft budget to cover the costs of personal consultations of the SNC members if necessary.

Prof. Contopoulos suggested that the future General Secretary should contemplate dissolving FAGS. The General Secretary proposed that she would discuss the problem with Dr. Enslin.

Prof. Goldberg doubted that it was proper to regard Interest earned at a relatively high rate (e.g. on dollar savings accounts) as Income to be set against expenditure, since such rates were obtained only in currencies that were losing some of their value each year.

After this discussion the Executive Committee unanimously recommended that the Draft Budget as prepared by the General Secretary should be submitted to the Finance Committee.

As regards the unit of contribution, it was unanimously resolved to maintain it at the present level of SFr. 1 465.-- per year.

13. Publication Policy

The Assistant General Secretary reported that the Transactions-Symposia camera-ready copy regime is going reasonably well. A few editors complain of difficulties but generally there was no strain, though the total amount of work is felt to be very large by some editors. Prof. v.d. Bergh said that many editors had difficulties obtaining typists free of charge, and that it would be appropriate for the IAU to pay for this work, say at least \$1 000.--.

The President suggested that the retyping of the manuscript could be done at the publishing house, as they have the experience and know the rules. The General Secretary remarked that the publisher has no typists for this purpose.

It was agreed that henceforth the sum allocated to Symposia would be Sfr. 6 000.-- instead of Sfr. 5 400.--, and that this augmented allocation would include a reserve for assistance in producing the camera-ready typescript.

As regards IAU publications, the Assistant General Secretary reported as follows:

(i) Transactions of the IAU

Volume XVIIIA of IAU Transactions: "Reports on Astronomy", edited by Edith Müller in three parts has been published for the IAU by D. Reidel Publishing Company.

Part I

Commissions 4, 5, 6, 7, 9, 14, 15, 16, 17, 19, 20, 21, 22, 31, 38, 41, 46, 47, 50.

1978, vii + 223pp. Cloth Dfl. 56,-/US\$29.50

ISBN 90-277-1005-8

Part II

Commissions 8, 10, 12, 24, 25, 26, 27, 29, 30, 35, 36, 42, 45.

1978, vii + 246pp. Cloth Dfl. 56,-/US\$29.50

ISBN 90-277-1006-6

Part III

Commissions 28, 33, 34, 37, 40, 44, 47, 48.

1978, vii + 228pp. Cloth Dfl. 56,-/US\$29.50

ISBN 90-277-1007-4

Complete set of 3 Parts: Dfl. 168,-/US\$88.50

(33% discount to IAU Members)

(ii) IAU Symposium Volumes

Symposium No. 78 "Nutation and the Earth's Rotation", was held in Kiev in May 1977. The finished manuscript (editors E.P. Federov, M.L. Smith and P.L. Bender) is still not in the hands of Reidel. Reminders that the AGS requires up-to-date information were sent in July 1977, November 1977, November 1978 and March 1979, but the first letter indicating completion was near was received in May 1979, when Dr P.L. Bender (J.I.L.A. Boulder) accepted responsibility and promised completion during June 1979. The Symposium proposal was accepted rather hastily in 1976 and the editorial team was only finalised at the time of the symposium on the proposal of Professor Federov. At a current date (August), the manuscript was still not finished.

Symposium No. 81 "Dynamics of the Solar System" (Tokyo, 1978)

Ed. R.L. Duncombe, 1979 xiv + 347pp. Cloth Dfl. 85,-/US\$44.50

Paper Dfl. 55,-/US\$26.50

Symposium No. 82 "Time and the Earth's Rotation" (Cadiz, Spain, 1978)

Ed. D.D. McCarthy, J.D. Pilkington, 1979 xviii + 329pp.

Cloth Dfl. 80,-/US\$42.--

Paper Dfl. 50,-/US\$26.50

Symposium No. 83 "Mass Loss and Evolution of O-type Stars" (Qualicum Beach, Vancouver Island, 1978)

Ed. P.S. Conti and C. DeLoore, 1979 xix + 501pp.

Cloth Dfl. 120,-/US\$63.15

Paper Dfl. 60,-/US\$31.60

Symposium No. 84 "The Large-Scale Characteristics of the Galaxy"
(College Park, Maryland, 1978)

Ed. W.B. Burton, 1979 xvi + 602pp.

Cloth Dfl. 140,-/US\$73.50
Paper Dfl. 60,-/US\$36.85

Symposium No. 89 "Refractional Influences in Astrometry and Geodesy"
(Uppsala, Sweden, 1978)

Ed. G. Teleki and E. Tengstrom, 1979 xxiv + 398pp.

Cloth Dfl. 95,-/US\$50.--
Paper Dfl. 70,-/US\$26.30

AVERAGE PRICE PER PAGE: (Paper) US\$0.066
(compare 1976 \$0.086, 1978 \$0.066)

(iii) IAU Colloquium Proceedings

The Proceedings of IAU Colloquia are being published as Colloquium volumes or in Journals as follows:

<u>Colloquium No. and Title</u>	<u>Editor(s)</u>	<u>Publisher</u>	<u>Date</u>
44. Solar Prominences	E. Jensen, P. Maltby and F.Q. Orrall	University of Oslo	1979
46. Changing Trends in Variable Star Research	F.M. Bateson, J. Smak, and I.H. Urch	University of Waikato, New Zealand	1979
47. Spectral Classifi- cations of the Future	M.F. McCarthy, G.V. Coyne and A.G.D. Philip	Specola Vaticana	1979
48. Modern Astronometry	F.V. Prochazka, and R.H. Tucker	Vienna University Observatory	1979
49. Formation of Images from Spatial Coher- ence Functions in Astronomy	C. van Schooneveld	D. Reidel Publ. Co.	1979
50. High Angular Resolution Stellar Interferometry	J. Davis and W.J. Tango	University of Sydney	1979
52. Protostars and Planets	T. Gehrels	University of Arizona	1978

The Proceedings of the Uppsala Regional Astronomy Meetings have been published as "Stars and Star Systems" by D. Reidel (pp. x⁺ + 264, 1979, US\$34.--), edited by B.E. Westerlund.

III. *Scientific Activity*

14. & 15. IAU Symposia and Colloquia

- (i) The Assistant General Secretary reported that the following meetings had been held since August 1978:

Symposium No. 89	College Park, Maryland, USA	August 1979
Symposium No. 87	Mont Tremblant, Quebec, Canada	August 1979
Symposium No. 88	Toronto, Ontario, Canada	August 1979
Colloquium No. 44	Oslo, Norway	August 1978
Colloquium No. 46	Hamilton, N.Z.	December 1978
Colloquium No. 48	Vienna, Austria	September 1978
Colloquium No. 50	College Park, Maryland, USA	August 1978
Colloquium No. 53	Rochester, N.Y., USA	August 1979
Colloquium No. 54	Princeton, New Jersey, USA	August 1979

Reports for Symposia 83, 84, 89 and Colloquia 44, 46-50 inclusive, were presented. The Assistant General Secretary drew attention to the IAU-IAG recommendation of Symposium No. 89, which would be discussed at the appropriate Commission meeting.

(ii) The following Symposia and Colloquia, already approved, were arranged in final form:

Symposium No. 85	Victoria, B.C., Canada	August 1979
Symposium No. 90	Ottawa, Ontario, Canada	August 1979
Symposium No. 91	Cambridge, Mass., USA	August 1979
Symposium No. 92	Los Angeles, Ca., USA	August 1979
Symposium No. 93	Kyoto, Japan	July 1980
Symposium No. 94	Bologna, Italy	June 1980
Colloquium No. 51	London, Ontario, Canada	August 1979
Colloquium No. 55	Toronto, Ontario, Canada	July 1980

It was noted that attempts to have Symposium No. 92 relocated were not successful.

(iii) The following proposed IAU Symposia were approved:

Symposium No. 95	Bonn, G.F.R.	September 1980
Symposium No. 96	Kailua-Kona, Hawaii, USA	June 1980
Symposium No. 97	Albuquerque, N.M., USA	August 1981

Of the three Colloquia proposed, it was decided that the proposal "Mass-Loss" (1980) should be resubmitted as a Symposium for 1981, the proposal "Satellites of Jupiter" (1980) should be relocated in USA, and the proposal "Stellar Hydrodynamics" should not be accepted. A further colloquium proposal on Coordinate Reference Frames for Warsaw in 1980 was noted; also a proposal for a colloquium on "Uranus" in Bath, UK, in 1980.

16. Co-sponsored Symposia

(i) It was reported that the COSPAR Symposium on Gamma-Rays co-sponsored by IAU and IUPAP, was held in Bangalore, India, 30 May - 1 June 1979, in connection with the XXII Plenary Meeting of COSPAR.

(ii) IAU Co-sponsorship was approved for the four COSPAR Symposia and one Workshop to be held at the time of the XXII Plenary Meeting of COSPAR in Budapest, Hungary, June 1980, as follows:

Progress in Planetary Exploration
Cosmic Rays in the Heliosphere
Physics of Planetary Magnetospheres
Theoretical Problems in High Energy Astrophysics
Workshop on Comparative Studies of Planetary Interiors

Appointment of IAU representatives was deferred.

17. Regional Meetings

(i) The reports of the Regional Astronomy Meetings at Uppsala, Sweden, in August 1978 and in Wellington, New Zealand in December 1978 were received.

(ii) Arrangements for the Yugoslav Regional Meeting, to be held in Dubrovnik, Yugoslavia in October 1981 were approved as the Sixth European Regional Astronomy Meeting. W. Fricke (Heidelberg) is Chairman of the Scientific Organizing Committee.

(iii) Proposals for the Fifth European Regional Astronomy Meeting to be held in Liège, Belgium, were approved. L. Woltjer (ESO) is proposed as Chairman of the Scientific Organizing Committee.

(iv) It was noted that proposals for Regional Astronomy Meetings in Merida, Venezuela and Bandung, Indonesia, in 1981 are in preparation.

18. Other Scientific Meetings

No items required discussion.

IV. *Relations with Other Organizations*

19. & 20. The General Secretary presented to the Executive Committee the following report:

(a) ICSU (International Council of Scientific Unions)

The 11th Meeting of the General Council was held in the Palais des Académies at Brussels (Belgium) on 4-5 July, 1979. It was preceded by meetings of several Committees such as the Sub-Committee on Scientific Priorities on 2nd July. The IAU was represented by the General Secretary, Prof. E.A. Müller, who also was invited to participate in the meeting of the Scientific Priorities Sub-Committee.

(a1) Allocations to the International Scientific Unions

The decision of the 17th General Assembly of ICSU in Athens

(September 1978) to divide the UNESCO subvention to ICSU into approximately equal parts, one of which is to be distributed equally among the 18 International Scientific Unions and the other to be made available for special projects, was reviewed by the Standing Finance Committee at its meeting on 1 July in Brussels. It resolved that the basic allocation to each of the 18 Unions in 1980 would be \$8 000.--. The other part of the 1980 UNESCO Subvention was distributed among various projects proposed by Unions, Inter-Union Commissions, etc. Thus, ICSU will attribute to the IAU in 1980, apart from the basic allocation, an additional sum of \$8 000.-- for its projects Exchange of Astronomers, Young Astronomers' Schools, and IAU Publications to Developing Countries. Every year new applications for special projects will have to be made by the IAU for UNESCO through ICSU contracts and subventions. The proposed project for additional funds should be listed in order of priority.

The Unions are requested to proposed special and new projects which might attract outside funds.

(a2) Structure of ICSU

The Ad hoc Group on the Structure of ICSU proposed that there might be initially a division of the ICSU family of Unions into three groups such as (i) Biosciences, (ii) Earth and Universe Sciences, and (iii) Physical Sciences. Such a structure was suggested with the idea that it might provide weightings for the activities of the various groups. The Unions themselves, however, are against such a grouping because each Union has its own individual character and should have the right to retain its independence and to contact ICSU directly rather than indirectly through some intermediate body. The creation of such bodies would only tend to increase administrative expenses and the bureaucratic character of ICSU.

(a3) FAGS (Federation of Astronomical and Geophysical Services)

The ICSU Sub-Committee on Scientific Priorities agreed that FAGS carries out an important and necessary function. It suggested that while continuing to support the activities of FAGS it should seek funds from other international bodies, such as UNESCO, WMO, the interested Unions, and perhaps IAEA, so as to reduce the expense to ICSU of continuing to support FAGS at the current level. Other alternative sources of funds suggested are the institutions participating in the FAGS network and national bodies of ICSU interested in the work of FAGS.

The WMO representative at the Scientific Priorities Meeting informed ICSU that WMO is ready to give a yearly subvention to FAGS.

(a4) CTS (Committee on Teaching of Science)

The ICSU Scientific Priorities Sub-Committee expressed satisfaction in the very useful work being carried out in an excellent fashion by CTS and suggested that the Committee continue with the same terms of reference. There appears to be a need for a better liason between the Committee and some of the Unions which were requested to carefully select their representative in CTS. There have been some problems in relation to adequate representation of different regions on the Committee.

(a5) POGSI (Policy Group on Science Information)

After having considered the report from POGSI and discussed the matter with the Chairman, the Sub-Committee on Scientific Priorities agreed that active interaction had not materialized between POGSI and the Executive Board and ICSU bodies as had been hoped when POGSI was established, and it was agreed to recommend that POGSI be dissolved as soon as it had completed work on a UNESCO contract in hand. The Sub-Committee stressed the importance of scientific information and a deep ICSU involvement therein, and suggested that the Executive Board should establish a small *ad hoc* Group of three people to suggest those areas of greatest importance to science and scientists, to seek inputs from the Union, Committees, Commissions, etc., where appropriate, from ex-members of POGSI, and to make recommendations on how ICSU might proceed.

(a6) Resolution

In view of the forthcoming World Administrative Radio Conference (WARC-79) in Geneva, from 24 September to 30 November 1979 and its importance for the future of Radio Astronomy and Space Research, the ICSU General Committee adopted the following resolution:

"The General Committee of ICSU
Concerned at the possible catastrophic effects
of interference on those frequencies important for
radio astronomy and space science research,
Invites WARC-79 to take all necessary steps to
ensure the allocation of the frequency bands
requested by IUCAF and to keep them free of
man-made interference,
and
Requests IUCAF and all appropriate ICSU organizations
and national members to support all initiatives at
the WARC-79 to ensure that the radio frequency allo-
cations for radioastronomy and space science should
fulfil the requirements for continued research
in the fields mentioned above."

(a7) Next Meeting

The next meeting of the General Committee will be held in Amsterdam (The Netherlands) in September 1980 prior to the ICSU General Assembly session.

(b) COSPAR (Committee on Space Research)

The XXIIInd Plenary Meeting and Associated Activities of COSPAR was held in Bangalore, India from 29 May to 9 June 1979. The IAU was represented by its General Secretary, Prof. Edith Müller, at the meeting.

Four Symposia and one Workshop were held in conjunction with the Plenary Meeting. The Union co-sponsored the Symposium on Non-Solar Gamma-Rays.

(b1) New Structure of COSPAR

Within the new structure of COSPAR the seven Interdisciplinary Scientific Commissions, their tasks and responsibilities were discussed. The IS Commissions of interest to the IAU are the following four:

1. IS Commission B. Space Studies of the Earth-Moon System
Chairman: Prof. J.R. Arnold (USA)
Vice-Chairman: Prof. V.L. Barsukov (USSR)

The terms of reference and Sub-Commission structure have yet to be proposed but geodynamics and the fields of the old COSPAR Panels 1C, 1D, and 3C are to be included.

2. IS Commission C. Space Studies of Upper Atmospheres of the Earth and Planets, Including Reference Atmospheres
Chairman: Prof. S.A. Bowhill (USA)
Vice-Chairman: Prof. M. Ya. Marov (USSR)

Terms of reference:

The Commission will: -stimulate planning of cooperative research programs
-investigate specified aspects of the properties and structure of the upper atmospheres of the Earth and Planets
-plan symposia and topical meetings in which new results are presented and discussed
-develop comprehensive reference atmospheres and ionospheres for the Earth and Planets

Sub-Commission C.1 - Earth's Upper Atmosphere and Ionosphere

Chairman: Dr J.E. Blamont (France)
Vice-Chairman: Dr E.R. Schmerling (USA)

Sub-Commission C.2 - Earth's Middle Atmosphere and Lower Ionosphere

Chairman: Dr D. Offermann (FRG)
Vice-Chairman: Dr L.G. Smith (USA)

Sub-Commission C.3 - Planetary Atmospheres; Aeronomy and Reference Atmospheres

Chairman: Dr C.A. Barth (USA)

Task Group on COSPAR International Reference Atmosphere

Chairman: Dr K.S.W. Champion (USA)
Vice-Chairman: Dr Kockarts (Belgium)

Task Group on URSI/COSPAR International Reference Ionosphere

Chairman: Prof. K. Rawer (FRG)
Vice-Chairman: Dr A.D. Danilov (USSR)

3. IS Commission D. Space Plasmas in the Solar System, including Magnetospheres

Chairman: Dr D.E. Page (ESTEC)

Vice-Chairman: Dr M.J. Rycroft (UK)

The Commission will operate by setting up Sub-Commissions to tackle specific tasks. In defining these tasks, no particular effort will be

made to cover simultaneously the whole range of topics involving space plasmas. Rather, an attempt will be made to deal more efficiently with selected areas.

Sub-Commission D.1 - The Three Dimensional Heliosphere

Sub-Commission D.2 - Technique and Instrumentation

Sub-Commission D.3 - Energy Redistribution in Planetary Magnetospheres

Officers of these Sub-Commissions are not yet nominated.

4. IS Commission E. Research in Astrophysics from Space

Chairman: Prof. S.L. Mandelshtam (USSR)

Vice-Chairmen: Prof. L.E. Peterson (USA)

Prof. R.M. Bonnet (France)

Sub-Commission E.1 - Galactic and Extragalactic Astrophysics

Chairman: Prof. L.E. Peterson (USA)

Vice-Chairman: Dr R.M. Bonnet (France)

This Sub-Commission is to cooperate closely with IAU Commission 44 and 48 and help establish close contacts between physicists and astronomers in cosmic space research.

Sub-Commission E.2 - Solar Physics

Chairman: Dr Z. Svestka (Netherlands)

This Sub-Commission will provide coordination of problems associated with the Sun as a star, including energetic particles in the heliosphere which are of interest to the Commission.

Some of the responsibilities of the Interdisciplinary Scientific Commissions were stated as follows:

- to discuss, formulate and coordinate internationally cooperative experimental investigations in space;
- to encourage inter-actions between experimenters and theoreticians in order to maximize space science results, especially interpretation arising out of analyses of the observations;
- to stimulate and coordinate the exchange of scientific results;
- to plan symposia and topical meetings for discussion of the results of space research, with an appropriate mixture of limited review and contributed papers;
- to carry out these tasks in the closest possible association with other organizations interested in these and related tasks.

(b2) Panels

In addition to the Commissions, the following independent Panels found a place in the new structure of COSPAR:

1. Panel on Frequency Allocation and Radio Transmissions

Chairman: Dr R. Leitinger (Austria)

It was recognized that at present, the scope of this Panel falls under the scope of URSI rather than COSPAR, but until the Panel is incorporated in URSI, COSPAR should ensure an organizational frame for the Panel's activities.

2. Advisory Panel on Space Research and Developing Countries
Chairman: Prof. J. Sahade (Argentina)

Terms of reference:

To advise COSPAR as to steps to be taken to help developing countries to benefit from the possibilities of space research; to help COSPAR provide relative assessments of the benefits of space science and technology for countries of different levels of development; to maintain close contacts with the National Committees for COSPAR in developing countries and to advise COSPAR as to ways that could help those countries strengthen their space programs; to provide a forum for all developing countries to discuss the undertaking of cooperative space programs and the possibilities of participating in space research; to facilitate the participation of developing countries in cooperative space programs; to foster affiliations of developing countries with COSPAR.

3. Panel on Technical Problems Related to Scientific Ballooning

Chairman: Prof. W. Reidler (Austria)
Vice-Chairman Prof. S. Damle (India)
Secretary: Mr J.P. Chassaing (France)

Terms of reference:

To provide a forum for exchange of ideas on technical and operational aspects of, on instrumentation specific to, and on areas of research that could be supported by, scientific ballooning;
To arrange symposia and disseminate information on technical advances and other information of interest to groups using balloons for space science;
To promote stratospheric balloon flights at different latitudes involving balloon drifts over thousands of kilometers, by establishing cooperative efforts and appropriate chains of stations for data collecting.

4. Technical Panel on Dynamics of Artificial Satellites and Space Probes

Chairman: Dr L. Sehnal (Czechoslovakia)

The terms of interest have yet to be defined in detail.

5. Panel on Potentially Environmentally Detrimental Activities in Space (PEDAS)

Chairman: Prof. K. Rawer (FRG)

The activities of this Panel remained unchanged.
A Report of PEDAS will be presented to COSPAR in 1980, three more subjects having been added to the list of topics identified in 1978 (see IAU Information Bulletin No. 41, January 1979, p. 14/15).
The additional subjects are: Re-entry burnout, Plasma depletion by release, and Technical aspects of spacecraft debris removal.
A resolution about recommended measures concerning spacecraft debris re-entry was formulated and adopted (see below).

6. Advisory Committee on Data Problems and Publications

Chairman: Dr J.I. Vette (USA)

The activity of this Committee is to continue without any change of function.

7. ISSP (International Solar System Programme)

The opinion of the COSPAR Plenary in Bangalore was that the new structure of COSPAR provides an appropriate organizational frame for the scientific activities projected for the ISSP, but concerning its educational activities, COSPAR has no possibilities to fulfil this part of the program and this matter is being referred back to ICSU, that they make provisions for these activities if it is desired that they continue.

(b3) Resolutions and Recommendations

The following Resolutions and Recommendations of interest to the IAU were adopted by the Executive Council and the XXIIInd Plenary Meeting of COSPAR in Bangalore:

1. Decision No. 2/79, proposed by the Panel on Potentially Environmentally Detrimental Activities in Space
Considering that the increase of satellite weight and size increased the danger of unwanted effects during atmosphere re-entry, e.g. localized atmospheric pollution by burn-out or damage to human property or even lives by re-entering debris, COSPAR,
urges the launching agencies to be cognizant of these effects and to make appropriate provisions to have such debris impact in areas where no damage to human activity is expected.
2. Decision No. 3/79, proposed by the Advisory Panel on Space Research and Developing Countries
Considering the importance of encouraging in developing countries the growth of technologies relevant to the field of space sciences, and
noting the proposal of the Workshop held at Ootacamund, India last April,
recommends to the concerned national institutions and international organizations to take the necessary actions with appropriate authorities to support the proposal to establish an international institute for space studies and electronics and to erect a giant radio telescope at an equatorial location, and
further recommends that early attention be given by the participating parties to the problem of training and building up an adequate number of scientific and technical personnel to adequately staff the facilities.

(b4) The XXIIIrd Plenary Meeting

The XXIIIrd Plenary Meeting and Associated Activities of COSPAR will be held in Budapest, Hungary from 2 to 14 June 1980 after which the COSPAR Plenary will meet only every two years.

IAU co-sponsorship has been requested for four Symposia and one Workshop to be held just prior to or during the XXIIIrd Plenary Meeting in Budapest.

The President thanked the General Secretary for her report. The General Secretary then added that in her view if grouping of Unions within ICSU is contemplated, the IAU should be classed with mathematics and physics rather than among Earth and Space Sciences. Prof. Contopoulos concurred with this opinion. Prof. Goldberg felt that ICSU did not act in the interest of the Union.

The General Secretary suggested that the dissolution of CCMP (Coordinating Committee for the Moon and Planets) should be taken into consideration as this organism had shown no activity at all during the past few years.

As regards IPMS (International Polar Motion Service) the Executive Committee agreed that Dr K. Yokoyama should replace Dr Yumi as Director of the service.

21. Representation

The Executive Committee approved the following representatives of the IAU in other international organizations for the next term of Office:

COSPAR: P.A. Wayman

Conference Committee of EPS: R. West

ICSU AB: W. Heintz

CCDM: A.H. Cook

CODATA: B. Hauck

SCOSTEP: M.R. Kundu

QBSA: F. Moriyama

IUWDS: V. Bumba

IUCS: B. Edlen, J.G. Philips, M.J. Seaton

BIH: H. Enslin, H.M. Smith

IPMS: K. Yokoyama

CCDS: Wm. Markowitz

FAGS: H. Enslin, V. Bumba

IUCAF: R. Wielebinski, L. Dogherty

CCIR: B. Robinson, E. Blum

SBARMO: P. Simon

CTS: L. Houziaux

SCOPE: F.G. Smith

V. *Final Meeting*

22. Re-discussion of items adjourned from previous sessions

At the final session of the 45th meeting of the Executive Committee on 21 August 1979, also attended by Prof. M.K.V. Bappu and Dr R. West, some points adjourned from the previous session were reopened. Before passing to the Agenda, the General Secretary wished to emphasize that the Officers of the IAU had made adequate pension arrangements for the Staff leaving the services of the IAU.

ad 4.(a) Future General Assembly: It was decided not to give Bulgaria the possibility of reconsidering its invitation to hold the XVIIIth General Assembly of the IAU in Bulgaria. In the discussion that followed the circumstances of various countries for the next General Assembly were taken into account. Among the countries contacted by the General Secretary were: Austria, Belgium, Denmark, German Democratic Republic, Greece, Italy, Spain, Sweden and the U.S.A. Only Greece, Spain and the U.S.A. pronounced themselves prepared to host the next General Assembly of the IAU, subject to approval by their national authorities. Eventually the following priorities were approved: (i) Greece in 1982, provided the invitation is forthcoming by the end of November 1979, (ii) U.S.A. in 1982, (iii) Spain in 1983.

Professor Bappu regretted not being able to renew the invitation of India for either 1982 or 1983. He said, however, that India will be happy to host the XIXth General Assembly of the IAU in 1985 or in 1986.

ad 9.(a) Resolution proposed by the Executive Committee: The General Secretary announced that the motion of the Executive Committee to change Statute 18.a has the support of the Finance Committee.

ad 9.(b) Resolutions proposed by Adhering Countries: The General Secretary continued by reporting that proposals 1. and 2. of the French National Committee of Astronomy had been withdrawn. On the other hand, the third motion concerning the extension of the interval between General Assemblies to 4 years has been sustained.

As regards the Swedish motion that grants to astronomers from developing countries should be introduced, it was noted that this proposal would be reformulated and presented to Commissions 38 and 46 for consideration, and not brought before the General Assembly.

ad 10. Commissions: The names of Presidents and Vice-Presidents of Commissions have been collected and will be projected during the General Assembly. The same applies to the composition of the Organizing Committees of Commissions.

ad 11. Future Nominating Committee: On the proposal of the General Secretary, the Executive Committee appointed A. Boyarchuk to serve on the SNC 1979-1982.

ad 14. - 18. IAU Meetings: The Assistant General Secretary presented to the Executive Committee the following Synopsis of the meetings discussed earlier, together with some new proposals, and revised versions of the proposals not previously accepted:

1980	13-16 May	Colloquium No.	Kailua-Kona, Hawaii	Satellites of Jupiter
	2-4 June	COSPAR Symposia, cosponsored by IAU	Budapest	Progress in Planetary Exploration. Cosmic Rays in the Heliosphere. Physics of Planetary Magnetospheres. Theoretical Problems in High Energy Astrophysics. Workshop on: Comparative Studies of Planetary Interiors.
	11-14 June	Symposium No. 94 (IAU-IUPAP)	Bologna	Origin of Cosmic Rays
	23-27 June	Symposium No. 96	Kailua-Kona, Hawaii	Infrared Astronomy
	22-25 July	Symposium No. 93	Kyoto	Fundamental Problems in the Theory of Stellar Evolution
	July	Colloquium No. 55	Toronto	X-ray UV Spectroscopy of Astrophysical and Laboratory Plasma
	28 July-1 Aug.	Fifth European Regional Astronomy Meeting	Liège	Variability in Stars and Galaxies
	August	Colloquium No.	Los Alamos	Stellar Hydrodynamics
	8-12 September	Colloquium No.	Warsaw	Coordinate Reference Systems
	September	Symposium No. 95	Bonn	Pulsars
	September	Colloquium No.	Trieste	Effects of Mass Loss on Stellar Evolution
	(September	Colloquium No.	Italy	Flare Stars)
1981	January	Symposium No.	Mexico or Venezuela	Stellar Infrared Spectroscopy and Photometry
	January	Latinamerican Regional Meeting	Merida, Venezuela	
	April	Colloquium No.	Bath, UK	Uranus and the Outer Solar System
	(June	Symposium No.	Italy	Supernovae and Supernova Remnants)

(June	Symposium No.	?	The Physics of Fundamental Observations)
August	Symposium No. 97	Albuquerque, New Mexico	Extragalactic Radio Sources
August	Asian-Pacific Regional Meeting	Bandung, Indonesia	
October	Sixth European Regional Astronomy Meeting	Dubrovnik, Yugoslavia	Sun and Planetary System

N.B. Absence of a number in the Symposium, Colloquium or Regional Meeting series implies that the proposal was not yet approved by the IAU Executive Committee.

Parentheses imply that a formal proposal had not yet been received.

The Executive Committee approved the two Regional Meetings proposed for 1981, so that the four Regional Meetings provided for in the budget 1980-82 are now approved. The Colloquium proposed for Warsaw in September 1980 was approved as IAU Colloquium No. 56. Other decisions were transferred to the agenda of the 46th Meeting of the Executive Committee. A forthcoming proposal for a Seventh European Regional Meeting in Heidelberg in 1983 was approved in outline.

ad 20. The General Secretary distributed a Draft Proposal on Project Merit, as requested by Presidents of Commissions 19 and 31. The project is strongly supported by IUGG. The IAU was requested to join in IUGG's application for UNESCO funds, and if this were impossible at least to give this project its strong moral support, which might help to convince UNESCO through ICSU to grant a special financial allocation. It was felt, however, that this problem should be dealt with only by the Commissions in question.

As regards FAGS, the General Secretary proposed that the Union could allocate SFr. 2 000.-- per year to this organization. This proposal was agreed by the Executive Committee.

ad 21. Representation: The Executive Committee approved the representatives of the IAU in other international organizations for the next term of Office, as under 21 previously.

23. Nothing was reported on Commission Resolutions.

24. IAU Finances

The General Secretary informed the meeting that the Finance Committee had approved the proposal of the Executive Committee to maintain the unit of contribution SFr. 1 465.--, and had approved the budget for 1979 and the comprehensive budget for 1980-1982.

The General Secretary said that, according to the information received from the Reidel Publishing Company, IAU Transactions and Symposium volumes sell as well as in the previous period and that no decrease in number of orders from Libraries was felt. The apparent downward trend of sale is due to the smaller number of symposia held in the course of the period in question.

25. Other Business

The Executive Committee admitted new individual IAU Members as proposed by the Nominating Committee.

It was noted that the Working Group for Planetary System Nomenclature has prepared a name bank for future use.

IAU Commissions 38 and 46 will prepare new rules for the project "Exchange of Astronomers" and Young Astronomers' Schools respectively.

It had been resolved (agenda item 16) that the IAU should cosponsor the COSPAR Symposia to be held in Budapest in conjunction with its next Plenary Meeting. In this connection Prof. Contopoulos proposed Prof. Emm. Sarris of the University of Thrace, Xanthi, Greece, as IAU representative on the Scientific Organizing Committee of the COSPAR Symposium on Cosmic Rays and Heliosphere.

26. It was noted that the 46th Meeting of the Executive Committee would be held on Thursday 23 August, at 14.15.

27. Closing by the President

The President closed the 45th Meeting of the Executive Committee at 17.00 and thanked the members and the advisers for their participation and cooperation.