



**REPORT
OF THE
COMMITTEE
ON THE PEACEFUL USES
OF OUTER SPACE**

GENERAL ASSEMBLY

OFFICIAL RECORDS: TWENTY-SEVENTH SESSION

SUPPLEMENT No. 20 (A/8720)

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New York, 1972

NOTE

Symbols of United Nations documents are composed of capital letters combined with figures. Mention of such a symbol indicates a reference to a United Nations document.

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I. INTRODUCTION

1. The Committee on the Peaceful Uses of Outer Space met at United Nations Headquarters, New York, from 5 to 15 September 1972, under the chairmanship of Mr. Peter Jankowitsch (Austria). Mr. Ion Datcu (Romania) served as Vice-Chairman and Mr. Celso A. De Souza e Silva (Brazil) as Rapporteur. The verbatim records of the Committee's meetings were circulated as documents A/AC.105/PV.110-119.

Meetings of subsidiary bodies

2. The Legal Sub-Committee held its eleventh session at the United Nations Office at Geneva, from 10 April to 5 May 1972, under the chairmanship of Mr. Eugeniusz Wyzner (Poland). The summary records of the Sub-Committee's meetings were circulated as documents A/AC.105/C.2/SR.187-191. The Sub-Committee's report was circulated as document A/AC.105/101.

3. The Scientific and Technical Sub-Committee held its ninth session at United Nations Headquarters, New York, from 3 to 11 May 1972, under the chairmanship of Mr. J. H. Carver (Australia). The summary records of the Sub-Committee's meetings were circulated as documents A/AC.105/C.1/SR.94-96 and 99-101. The report of the Sub-Committee was circulated as document A/AC.105/102.

Fifteenth session of the Committee

4. On 15 and 16 December 1971, the Committee on the Peaceful Uses of Outer Space met to consider the organization of work for its fifteenth session. The proceedings of these meetings of the Committee were reported in the verbatim records of its 107th and 108th meetings. The Committee met again on 11 May 1972 for the election of a new chairman and vice-chairman. At this meeting, the Committee elected Mr. Peter Jankowitsch (Austria) as its new chairman to replace Mr. Kurt Waldheim (Austria), who had been elected Secretary-General of the United Nations, and Mr. Ion Datcu (Romania) its new Vice-Chairman to replace Mr. Gheorghe Diaconescu (Romania), who had been assigned to a new post. The proceedings of this meeting were reported in the verbatim record of the 109th meeting.

5. At its 110th meeting, on 5 September 1972, when the Committee resumed its fifteenth session, it adopted the following agenda:

1. Adoption of the agenda
2. Statement by the Chairman
3. Consideration of the reports of:
 - (a) The Legal Sub-Committee (A/AC.105/101)
 - (b) The Scientific and Technical Sub-Committee (A/AC.105/102), including the summary of the preparatory session of the Working Group on Remote Sensing of the Earth by Satellites

4. Other matters
5. Report of the Committee to the General Assembly.
6. In addition to the reports of its Sub-Committees, the Committee had before it the following documents:

A/AC.105/L.66	Provisional agenda
A/AC.105/104	Draft Declaration of Guiding Principles on the Use of Satellite Broadcasting for the Free Flow of Information, the Spread of Education and Greater Cultural Exchange (item 4)
A/AC.105/105	Plan of Action for the World Meteorological Organization Tropical Cyclone Project (item 4)
A/AC.105/106	Summary of Sounding Rocket Launchings from Thumba Equatorial Rocket Launching Station (item 3)
A/AC.105/107	Eleventh Report by the International Telecommunication Union on Telecommunication and the peaceful uses of outer space (item 3)
A/AC.105/XV/WP.1	Broadcasting from Satellites: Working Paper presented by Sweden (item 4)

7. At the invitation of the Committee, the Secretary-General addressed its opening meeting on 5 September. The text of his statement is reproduced in annex I. At the same meeting, the Committee heard statements by its Chairman, which is reproduced in annex II, and by the Chairman of the Legal Sub-Committee, reproduced in annex III, who presented the report of the Sub-Committee.

8. The Committee held its general debate on the items before it from the 111th to 116th meetings, between 6 and 11 September, in the course of which statements were made by the representatives of Argentina, Australia, Austria, Brazil, Canada, Egypt, France, India, Iran, Italy, Japan, Mexico, Morocco, Romania, Sierra Leone, Sweden, The United Kingdom of Great Britain and Northern Ireland, the Union of Soviet Socialist Republics and the United States of America. The statements were reproduced in the verbatim records of the 111th to 116th meetings of the Committee. The representatives of the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Meteorological Organization (WMO) and the Committee on Space Research (COSPAR) also made statements, which are reported in the verbatim records of the 115th and 116th meetings of the Committee.

9. In the course of the general debate, the Expert on Space Applications also made a statement, the text of which is contained in the verbatim record of the 116th meeting.

10. After considering the various items before it, the Committee adopted its report to the General Assembly, at its 119th meeting on 15 September 1972, containing its recommendations and decisions as set out in the paragraphs below.

II. REPORT OF THE LEGAL SUB-COMMITTEE

11. The Committee took note with appreciation of the report of the Legal Sub-Committee on the work of its eleventh session (A/AC.105/101).

12. The Committee expressed its satisfaction that the Legal Sub-Committee, in considering the draft treaty relating to the moon, had made considerable progress by approving the texts of the preamble and 21 articles of a draft treaty, noting at the same time that some provisions in the text which are placed within square brackets are yet to be agreed upon (A/AC.105/101, para. 19), and that some delegations expressed reservations regarding certain articles of the draft.

13. The Committee commended the USSR delegation for the draft international treaty concerning the moon which was proposed by the USSR at the twenty-sixth session of the General Assembly and subsequently referred to the Committee and its Legal Sub-Committee, and the delegation of Argentina for its draft agreement on principles governing activities in the use of the natural resources of the moon and other celestial bodies which was submitted to the ninth session of the Sub-Committee.

14. The Committee also expressed its satisfaction that the legal Sub-Committee had made notable progress by approving the texts of the preamble and nine articles of the draft convention on the registration of objects launched into outer space, noting at the same time that the provisions on some articles which are placed within square brackets are yet to be agreed upon (see A/AC.105/101, para. 29).

15. In this connexion, the Committee commended Canada and France for having merged their separate drafts and provided the Sub-Committee with a single draft convention.

16. During the general debate the Committee had a useful exchange of views on the outstanding issues of the draft treaty relating to the moon as well as the draft convention on the registration of objects launched into outer space. The Committee also conducted informal negotiations in order to seek agreement on those issues.

17. The Committee noted the views of various members on the principal unresolved issues with regard to the draft treaty relating to the moon. One such issue concerned the scope of the treaty, and whether the treaty should apply to activities on the moon or, as well, to activities on other celestial bodies. A second unresolved issue concerned the legal régime over natural resources of the moon, and whether the treaty should provide that these resources form part of the common heritage of mankind. A third principal unresolved issue concerned the information to be furnished on missions and whether the treaty should call on States to provide notification of the intention to launch missions to a celestial body in advance of launching. Some members also expressed views relating to the appropriate designation to be accorded the draft treaty, and suggested that "conventions", "agreement" or "protocol" might be more appropriate. Other aspects of the draft treaty that were mentioned included the question of

liability for damage and the question of the relationship between the proposed treaty and other treaties on outer space.

18. The Committee expressed the hope that the Sub-Committee will be able to make further progress with a view to completing the draft treaty relating to the moon as well as the draft convention on the registration of objects launched into outer space. The Committee recommended that the Legal Sub-Committee should, as proposed by it, pursue the work of the draft treaty relating to the moon as well as the draft convention relating to the registration of objects launched into space, as a matter of priority at its next session.

19. With regard to the various matters covered by item four of the Legal Sub-Committee's agenda, i.e. relating to the definition and/or delimitation of outer space and outer space activities, the various implications of space communications: report of the Working Group on Direct Broadcast Satellites, matters relating to the activities carried out through remote sensing satellite service of earth resources, the Committee noted that although some delegations recorded their views on those questions, the Sub-Committee, because of lack of time, did not consider these subjects in any detail.

20. The Committee was gratified at the announcement made in the Committee that the Convention on International Liability for Damage Caused by Space Objects came into effect on 1 September 1972.

III. REPORT OF THE SCIENTIFIC AND TECHNICAL SUB-COMMITTEE

21. The Committee took note with appreciation of the report of the Scientific and Technical Sub-Committee on the work of its ninth session (A/AC.105/102). In considering the various recommendations of the Sub-Committee contained in that report, the Committee expressed its views as set out in the following paragraphs.

A. Promotion of the application of space technology

22. The Committee welcomed the importance given by the Sub-Committee to matters relating to practical applications of space technology. It took note of the observations contained in paragraph 38 of the report and noted the view of many delegations in the Committee that, while recognizing that scientific matters continued to be an important part of the Sub-Committee's work, the latter should increasingly be concerned with space applications, particularly as they apply to the national development of the developing countries.

1. United Nations programme on space applications

23. The Committee noted with appreciation that the Secretary-General through the Expert on Space Applications, had carried out the United Nations programme for promoting international co-operation in this field, in accordance with the recommendations of the Committee. It expressed its appreciation to the first Expert on Space Applications, Professor Humberto J. Ricciardi of Argentina, who, during his two years' assignment with the United Nations, had carried out outstanding work in developing the programme into a meaningful one. It expressed the hope that his successor will continue to develop programmes of practical applications in accordance with the guidelines set by the Committee and the General Assembly.

24. The Committee endorsed the recommendations of the Sub-Committee on the United Nations Programme on Space Applications for 1973, including the financial implications of the programme as contained in paragraph 16 A of its report, and the Guidelines for programming for 1974, in paragraph 16 B of the report. The Committee took note of the views expressed by some delegations that the United Nations budget for the implementation of programmes of space applications should be increased.

25. The Committee noted with pleasure the progress achieved in the implementation of the current programme of space applications, including the visit by the Expert to various Asian countries and the holding of panels in various parts of the world. It took note of the results of the panel on the establishment and implementation of research programmes in remote sensing, held in Brazil in November-December 1971, and expressed its appreciation to the Government of Brazil for hosting it and for the efficient manner in which the panel had been organized. It also looked forward to reports of the proposed panel and training seminar on the use of meteorological data to be held jointly by the United Nations and WMO in Mexico in November 1972,

and on instructional television satellite system in India in December 1972, to be held by the United Nations in co-operation with the Government of India, with the participation of UNESCO and the International Telecommunication Union (ITU). It expressed the hope that other members of the Committee and the United Nations which have acquired experience in the field of practical applications will share their knowledge and experience with Member States by inviting such United Nations sponsored panels in their countries.

26. On future panels, the Committee noted with pleasure that, in response to General Assembly resolution 2733 C (XXV) regarding technical panels, the representatives of Japan and Argentina had extended their Governments' invitation for such panels to observe a number of programmes on space technology applications being carried out in their respective countries. It welcomed the statements by the representatives of Argentina and Japan at this session confirming their invitations. The Committee also noted with appreciation the statement by the representative of Brazil at this session confirming his country's willingness to host a workshop or special seminar on space applications envisaged in the United Nations programme on space applications for 1974.

27. In connexion with the views of some members regarding the need for strengthening the United Nations Outer Space Affairs Division, the Committee noted that the Secretary-General in his report to the Committee at its fourteenth session had indicated that he would report to the General Assembly on measures being contemplated to enhance the effectiveness of the Division, as referred to in paragraph 37 of the report of the Sub-Committee. The Committee looked forward to the submission of the Secretary-General's report to give effect to this recommendation.

2. Applications of space technology: specialized agencies and other international organizations

28. The Committee noted with appreciation that a number of specialized agencies, in particular WMO, ITU and UNESCO, had continued to take an active part in the United Nations programme for the promotion of international co-operation in the practical applications of space technology, including the organizing of technical panels.

29. The Committee further noted with appreciation the Plan of Action prepared by WMO for its Tropical Cyclone Project (A/AC.105/105) which was conducted in response to General Assembly resolution 2733 D (XXV) requesting WMO, inter alia, to find ways and means of mitigating the harmful effects of tropical storms. It recommended that the General Assembly bring the Plan of Action to the attention of Member States and invite them to co-operate to the fullest possible extent with WMO with a view to achieving the objectives laid down in the aforementioned resolution.

30. The Committee also took note with appreciation of the 11th progress report submitted by ITU on its activities (A/AC.105/107), particularly as it related to the Decisions of the World Administrative Radio Conference for Space Telecommunications, held in Geneva in 1971.

31. The Committee took note of the Draft Declaration of Guiding Principles on the use of Satellite Broadcasting for the Free Flow of Information, the Spread

of Education and Greater Cultural Exchange, prepared for UNESCO as contained in document A/AC.105/104 (see also para. 57 below).

32. The Committee welcomed the co-operation offered by the Committee on Space Research (COSPAR) and the statement made at the current session by its newly elected Chairman, Professor Cornelius De Jager. The Committee took note, in particular, of the study prepared by Working Group 6 of COSPAR on the application of remote sensing to environmental problems, the substance of which had been presented by its representative to the last session of the Scientific and Technical Sub-Committee (A/AC.105/C.1/L.51).

B. Consideration of the scientific and technical aspects of international co-operation

Exchange of information

33. In regard to exchange of information, the Committee noted with appreciation the reports submitted by Member States on their national and international co-operative space programmes. In this connexion, the Committee endorsed the view of the Sub-Committee that requests for national reports should be made following the meeting of the Committee and that they should be submitted to the Secretariat by the following January, in order to allow the Sub-Committee sufficient time to study them well ahead of its session. The Committee urged Member States, who have not done so, to provide information on their national and co-operative space programmes to the Committee, in order to enhance the usefulness of the "Review of national and co-operative international space activities".

Education and training

34. The Committee reviewed the progress achieved in the field of international co-operation in education and training in the peaceful uses of outer space, including training in practical applications of space technology, as indicated in paragraphs 28 to 32 of the report of the Sub-Committee.

35. It expressed appreciation to the Governments of Brazil, France, India, Italy, Japan, the United Kingdom and the United States, which had offered fellowships in various fields of space technology and to the renewal of such offers made at the present session of the Committee.

36. The Committee welcomed in this connexion the announcement made at the present session by the representative of Japan on the number and conditions of scholarships offered.

37. The Committee also welcomed the announcement by the United States that the National Aeronautical and Space Administration was inviting each Member of the United Nations and the specialized agencies to send a science-oriented teenager to tour scientific facilities in the United States and to attend the December launch of Apollo 17 to the moon at Cape Kennedy.

38. In bringing the offers of fellowships to the attention of Member States, particularly the developing countries, the Committee took note of the view that, where not so provided for, offers of fellowships should also include travel

grants, whenever possible, to enable more candidates from developing countries to fully take advantage of such offers.

Space technology and the environment

39. The Committee noted the view expressed by some members that in its future activity it should also be concerned with the potential of satellites and other space platforms for monitoring the human environment, and thus help achieve the objectives set by the United Nations Conference on the Human Environment, held in Stockholm in June 1972.

40. The Committee took note that the two reports prepared by the Secretariat with the assistance of consultants entitled "The use of earth survey satellites in monitoring the changes in the global environment" (A/AC.105/C.1/VIII/CRP.1) and "The role of earth satellites in the study of the human environment" (A/AC.105/C.1/VIII/CRP.2), had been brought to the attention of the United Nations Conference on the Human Environment, in accordance with the Sub-Committee's 1971 report.

41. It also noted that the Outer Space Affairs Division had organized a panel on "The Use of Remote Sensing from Aircraft and Spacecraft for Monitoring the Environmental Changes and Conditions" at the United Nations Conference on the Human Environment, where experts from members of the Committee including Brazil, India, Italy, Sweden and the United States of America participated.

42. The Committee recommended that the Scientific and Technical Sub-Committee also give consideration to the potential of satellites and other space platforms for monitoring the human environment.

43. The Committee expressed its view in this connexion that, in the event of the report of the Stockholm Conference being adopted by the General Assembly, it would be desirable for the Chairman of the Committee and the Secretary-General to establish appropriate contact with the proposed organization for human environment, on the future activity of the Committee in matters relating to space technology and the environment.

44. The Committee shared the views expressed by some members concerning the need for further dissemination of information among public policy-makers, economic planners, environmentalists and other officials concerned with policy-making on the potential of satellites and other space platforms for monitoring the human environment. The Committee therefore was of the opinion that the Scientific and Technical Sub-Committee might wish to consider the possibility of preparing, if possible in 1973, a pamphlet of several pages long in order to meet that need, and in so doing to consult interested specialized agencies, scientific organizations, such as COSPAR, and to take into account the various papers referred to in the above paragraphs.

Rocket launching stations reports

45. The Committee noted the section of the report of the Sub-Committee concerning the progress accomplished at the Thumba Equatorial Rocket Launching Station (TERLS) in India, and the CELPA, Mar del Plata Launching Station in

Argentina, and shared the Sub-Committee's satisfaction at the work relating to international co-operative projects being carried out at the two ranges. It noted in particular the reports submitted by Argentina and India to the Sub-Committee in this respect. The Committee accordingly recommended that the General Assembly continue sponsorship of the two ranges.

46. The Committee also welcomed the announcement made by the representative of Sweden, referred to in paragraph 36 of the Sub-Committee's report, to the effect that the ESRANGE-Kiruna range would be made available for international co-operative projects.

United Nations registry of launchings of space objects

47. The Committee expressed its appreciation that in conformity with the provisions of paragraphs 1 and 2 of General Assembly resolution 1721 B (XVI), it had continued to receive information from States concerning objects which they had launched into orbit. Since the Committee's last report, information has been furnished by France, Japan, the Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland and the United States of America. The information received has been placed in the public registry maintained by the Secretary-General and has been circulated in documents A/AC.105/INF.236-258.

C. The Working Group on Remote Sensing of the Earth by Satellites

48. The Committee noted that the Working Group on Remote Sensing of the Earth by Satellites had held its preparatory session during the ninth session of the Scientific and Technical Sub-Committee, in May 1972. It took note, in particular, of the conclusions reached at this session as contained in annex I of the report of the Scientific and Technical Sub-Committee, in which the Working Group outlined its future work.

49. The Committee also noted that the Working Group had requested the Secretary-General to prepare a background paper assessing the documents and other data brought to its attention and had set up a task force - consisting of experts appointed by the Governments of Canada, France, India, Sweden, the Union of Soviet Socialist Republics and the United States of America, under the chairmanship of Dr. Franco Fiorio, Chairman of the Working Group - to assist the Secretary-General in this respect.

50. The Committee looked forward to the report of the Scientific and Technical Sub-Committee on the progress of the work of the Working Group.

IV. OTHER MATTERS

A. Observer status for the European Space Organization (ESRO) and the European Launcher Development Organization (ELDO)

51. The Committee received the requests by the European Space Research Organization (ESRO) and the European Launcher Development Organization (ELDO) for observed status with the Committee, and it agreed at its 115th meeting on 11 September to grant observer status to both organizations and to invite them to participate in its work.

B. Working Group on Direct Broadcast Satellites

52. The Committee considered a working paper presented by Sweden during its session proposing the reconvening of the Working Group on Direct Broadcast Satellites (A/AC.105/XV/WP.1).

53. The Committee recalled that the Working Group, established in conformity with resolution 2453 B (XXIII), had so far held three sessions and presented three reports on technical, economic, legal, social, organizational and other aspects of direct broadcast satellites. It further recalled resolution 2733 A (XXV), unanimously adopted by the General Assembly, in which the Assembly endorsed the conclusions reached by the Working Group and, with respect to future work, requested the Committee on the Peaceful Uses of Outer Space to keep under review the question of reconvening the Working Group at such time as additional material of substance might have become available.

54. The Committee noted in this connexion that, during the last two years, action had been taken by concerned international organizations on various aspects of broadcasting from satellites some of which were of direct relevance to the work of the Committee on the Peaceful Uses of Outer Space, namely:

(a) The decisions and recommendations adopted by the ITU at the World Administrative Radio Conference for Space Telecommunications, Geneva, 1971; these decisions, which upon ratification will enter into force on 1 January 1973, deal with the allocation of frequencies for all kinds of space communications, including satellite broadcasting, as well as with the technical and administrative regulations concerning the establishment and operations of satellite communication systems;

(b) The draft declaration of guiding principles on the use of satellite broadcasting for the free flow of information, the spread of education and greater cultural exchange, transmitted by the Director-General of UNESCO to the Secretary-General (A/AC.105/104);

(c) The on-going work performed by UNESCO and the World Intellectual Property Organization with regard to the protection of television signals transmitted via satellites.

55. The Committee further noted that on 11 August 1972 the USSR requested the inclusion in the agenda of the twenty-seventh session of the General Assembly of the question of the elaboration of an international convention on principles governing the use by States of artificial earth satellites for direct television broadcasting.

56. In light of these developments, the Committee on the Peaceful Uses of Outer Space recommended that its Working Group, in view of its interdisciplinary character and its co-ordination functions, should be reconvened to study the new substantive material now available concerning the subject-matter under its mandate and to list possibilities for further action by the United Nations and the specialized agencies in their future work.

C. Draft Declaration of Guiding Principles on the Use of
Satellite Broadcasting for the Free Flow of Information,
the Spread of Education and Greater Cultural Exchange

57. As regards the above UNESCO draft declaration, the Committee, having heard the views expressed by its members, endorsed the conclusion stated by the Chairman at the 117th meeting that, as a principal United Nations organ on outer space, providing a "focal point" for international co-operation in the peaceful uses and exploration of outer space, as stated in General Assembly resolution 1721 (XVI), the Committee had the obligation to comment on the UNESCO draft declaration. The Committee regretted that it had not been able to comment thereon during the present session. Nevertheless, many delegations felt that the Committee should comment and that those comments should be made at a stage where UNESCO can usefully take account of the Committee's views. They expressed the hope that the General Conference of UNESCO would favourably consider giving the Committee on the Peaceful Uses of Outer Space further opportunity to comment before finally adopting the text of the draft declaration. However, some delegations did not share this view.

V. FUTURE WORK OF THE COMMITTEE AND ITS SUBSIDIARY ORGANS

Calendar of meetings

58. In considering the dates for its future meeting, the Committee had before it the recommendations of its two Sub-Committees. The Scientific and Technical Sub-Committee recommended that its tenth session be held for two weeks in May 1973; the Legal Sub-Committee, recommended that its twelfth session be held from 26 March to 20 April 1973. In the course of the present session, the Committee also noted a proposal made by the representative of Japan at the 112th meeting that, in the future, the sessions of the Committee be held in June, instead of September.

59. The Committee, having deliberated on the matter, and after informal consultations with its members, agreed on the following schedule for its 1973 session and those of its subsidiary bodies:

	<u>Place</u>	<u>Time</u>
Committee on the Peaceful Uses of Outer Space	New York	25 June-6 July
Legal Sub-Committee	New York	26 March-20 April
Scientific and Technical Sub-Committee	New York	7-18 May
Working Group on Remote Sensing of the Earth by Satellites	New York	29 January-9 February
Working Group on Direct Broadcast Satellites	New York	11-22 June

Summary records of the Legal Sub-Committees

60. The Committee approved the recommendations of the Legal Sub-Committee that all its meetings at the forthcoming session be provided with summary records, on the understanding that such procedure would not entail additional expenses.*

* As regards the summary records of the Scientific and Technical Sub-Committee, the Committee was informed that arrangements similar to those made for its session in 1972 would be continued.

ANNEX I

Statement by the Secretary-General at the opening meeting of the resumed fifteenth session of the Committee on the Peaceful Uses of Outer Space on 5 September 1972

It gives me great pleasure to join you on the occasion of the first meeting of the resumed fifteenth session of the Committee on the Peaceful Uses of Outer Space. I also take this opportunity to extend my best wishes to the new Chairman of the Committee, Ambassador Jankowitsch, for the successful work of the Committee under his leadership.

International co-operation in the peaceful uses of outer space has preoccupied the United Nations ever since it became clear what the orbiting of man-made satellite would have in store for mankind. It was only natural that, in the beginning, the international community welcomed the technological fact with mixed feelings. There was the hope, on the one hand, that the benefits from this new technology would be immense if used for the improvement of man's destiny on earth; there was the apprehension, on the other, that if abused the technology could bring mankind closer to the brink of disaster.

The first and second decades of space exploration and activity have, because of man's prudence, allayed this apprehension, and have witnessed a blissful era of international co-operation in this field. The progress achieved has also provided the international community with eloquent testimony of a historical process through which, given the political will, an area of potential rivalry and conflict in international politics can be turned into a fruitful co-operative endeavour for the benefit of mankind.

It is in that spirit, of course, that the world community has welcomed the agreements reached in the last few years between the two space Powers for enhancing their co-operation in joint space programmes, including, more recently, the agreement for the joint docking of United States and Soviet spacecraft and stations envisaged for 1975.

Of no less importance has been other bilateral and multilateral international co-operation among other States, including the developing countries, in the scientific exploration and practical applications of space technology in the area of communications, meteorology and remote sensing of earth resources.

Much credit for this achievement goes to the international community for its constant prodding and encouragement, and I am most grateful that the United Nations has not failed to be an active participant in this process.

During the many years that I had the privilege of being associated with this Committee, I was constantly impressed and heartened, even during the most controversial periods, by the sincere desire of members of the Committee truly to promote the peaceful exploration of outer space, honestly to search for ways and means through which the benefits derived from such exploration would be shared by all Member States, and to employ the machinery of the United Nations for these ends whenever possible.

The accomplishments of this Committee in establishing a legal foundation for activities in outer space are well known and are most impressive. The Declaration of Legal Principles Governing the Activities of States in the Exploration of Outer Space, adopted by the General Assembly in its resolution 1962 (XVIII) in 1963, marked the initial convergence of efforts initiated in the United Nations as early as 1958 to establish a legal régime for outer space activities. The Declaration stipulated that all activities in outer space would be carried out in accordance with the Charter of the United Nations and international law in general, in the interest of mankind, of maintaining international peace and security and promoting international co-operation and understanding.

This development provided the basis for further action to give treaty form to the principles governing the activities of States in outer space, and an international treaty was concluded under United Nations auspices in 1967. It is a historic document for, among other things, it sought to ensure that man would not extend to outer space his earthly exercise in nuclear weapons and weapons of mass destruction.

This treaty was soon followed by two other documents - the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space and the Convention on International Liability for Damage Caused by Space Objects, adopted by the General Assembly in resolutions 2345 (XXII) and 2777 (XXVI), respectively. These are two most important agreements.

The United Nations has now turned its attention to two other significant draft treaties relating respectively to the moon and to the registration of space vehicles. The consideration of a treaty to govern the activities of man on the moon is most timely. Equally important is the consideration given to an agreement which will develop in an orderly pattern the registration of space objects, which are constantly increasing. Although these draft treaties are not yet completed, considerable progress has been achieved so far on these two agreements, and I share the hope expressed in this Committee that they will be finalized in the near future.

The attention of the General Assembly this year has also been drawn to a draft convention relating to the use of satellites for direct television broadcasting. This and other proposals now before the Legal Sub-Committee will no doubt engage the attention of this Committee for the months to come.

I am confident that, as in the past, the United Nations will continue to play, through this Committee, the vital role expected of it in ensuring that the exploration of outer space will take place in an orderly and peaceful manner, in the interest of all nations regardless of their economic development.

Let me also say a few words about the scientific and technical aspects of outer space co-operation, particularly in the field of practical applications of space technology.

We are now well in the second decade of outer space exploration, in whose wake we have observed increased activities in practical applications. Weather satellites and communication satellites are performing important functions which already benefit a large portion of mankind and which promise to bring more

benefits to an even larger number in the future. We are on the threshold of another practical application of space technology: the remote sensing of earth resources by satellites - a technology which could become a most effective device in securing information about utilizing the earth's environment and its resources to alleviate the shortage of food, the problem of pollution and the conservation of nature. And there is no doubt that the future will bring additional new developments in outer space.

Throughout this time, the United Nations system has concerned itself with the energetic promotion of international co-operation in the applications of space technology. The World Meteorological Organization's utilization of meteorological satellites for its World Weather Watch and programmes, the International Telecommunication Union's involvement with communication satellites, and the United Nations Educational, Scientific and Cultural Organization's concern with the use of communication satellites for education are but some examples of such concern.

With the appointment of an expert on space applications two years ago, the Committee on the Peaceful Uses of Outer Space has made it possible for the United Nations itself to pursue a programme of international co-operation to promote the use of practical applications of space technology. With limited means, United Nations activity in this area has now been developed into a modest but meaningful programme.

As the area of space applications is being widened, it should be possible to extend international co-operation in newer areas of activity. The resources and experience of the United Nations might be utilized in this context in a manner that not only would ensure that the practical benefits from space would become available to all nations but also would ensure a strengthening of the capabilities of the United Nations to act as a focal point in such international programmes.

I wish this Committee continued success in promoting international co-operation in the peaceful uses and exploration of outer space.

ANNEX II

Opening statement by the Chairman at the 110th meeting of the Committee on 5 September 1972

It is a privilege for your Chairman to address the Committee at the outset of our work. Perhaps it is a little bit unfair for the Chairman to address the Committee without even asking whether anybody else wants to speak. However, I understand that this is a tradition of the Committee. The agenda contains an item entitled "Statement by the Chairman", and I shall therefore with your permission now proceed with my statement.

May I first say in my personal capacity what a great honour and special privilege it is for me to be able to preside for the first time over a regular session of the Committee on the Peaceful Uses of Outer Space. I already had the opportunity in May to assure the Committee of my determination to assist it in every way possible in carrying out its tasks and I am looking forward with great pleasure to most fruitful, effective and cordial co-operation with all the delegations present, the representatives of the specialized agencies, and the observers, and last but not least with the Secretariat of the United Nations, in particular the Outer Space Affairs Division under the experienced guidance of Mr. Abdel-Ghani.

Before the Committee enters into consideration of the problems and questions it is at present concerned with, it has become customary for the Chairman to review - and I will be as brief as I can - some of the major events in outer space since the last session of the Committee. I think this may be particularly useful to provide a framework for our later debates. May I remind the Committee, therefore, of the following most important events in outer space.

On 28 September 1971, Japan launched its first scientific satellite, Shinsei.

On 3 October 1971, the Soviet Lunokhod 1 completed its exploration programme on the surface of the moon.

On 29 October 1971, the United Kingdom launched its X-3 Prospero scientific satellite from Woomera and became the sixth country successfully to place a satellite into orbit.

The United States Mariner 9 successfully transmitted on 9 November 1971 29 photographs of the planet Mars in a first test of the space system as it neared its rendezvous with the planet.

On 15 November 1971, an international agreement establishing Intersputnik, an international space communication organization, was signed in Moscow.

On 2 December 1971, for the first time, an instrument package of the automatic station Mars 3 of the Soviet Union made a soft landing upon the surface of Mars. Data from the station were transmitted to earth.

At the beginning of this year, a capsule of the Soviet station Luna-20 returned to earth bringing back lunar samples.

An American spacecraft, Pioneer 10, was launched in March of this year on the first mission to explore the environs of the planet Jupiter.

As the Committee knows, the Apollo 16 mission successfully completed its space venture in March of this year. The crew succeeded in carrying out most of its objectives and brought a large amount of samples from the moon back to earth.

On the political side, an agreement was signed in May of this year between the President of the United States of America and the Prime Minister of the Union of Soviet Socialist Republics for co-operation between these two countries in the exploration of space.

This provided a legal basis for the already existing space co-operation between the United States and the Soviet Union and is undoubtedly a most welcome step towards promotion of international co-operation in space.

May I conclude this round-up of space events by reminding the Committee that on 10 July of this year the Soviet Union launched its 500th satellite in the Cosmos series.

From the same country, the Venera 8 automatic interplanetary station was launched in August. This new Soviet space experiment ensured during 15 minutes the transmission to the earth of valuable scientific data from the surface of the illuminated side of Venus.

In August 1972, the United States launched the heaviest scientific satellite ever projected into space so far. It is the space observatory Copernicus which circles the earth at a distance of about 400 miles.

Finally, in August 1972, Japan successfully launched its fourth scientific satellite from the space centre of Uchinoura.

The first Earth Resources Technology Satellite (ERTS-1) was successfully launched by the United States aboard a two-stage Delta rocket from the Western Test Range in Lompoc, California, on 23 July 1972. Since the ERTS experiment is of the highest importance for the future activities of the Working Group on Remote Sensing, I should like to take a few minutes to go into a little more detail on this experiment.

From a 570-mile elliptical, near-polar orbit, three television - videcon - cameras equipped with colour filters will take pictures in the blue-green, red and near-infrared bands, and a radiation scanner will make measurements in visible green and red and two infrared bands. The television cameras will simultaneously view a single 115-mile by 114-mile square of the earth's surface every 25 seconds, scanning, for instance, the entire area of the United States in 500 photographs. Those are just a few of the most interesting data on this new technological satellite.

The ERTS-1 satellite is a first step in studying the feasibility of remote sensing of the earth by satellite for gathering information on a global scale which

can be of economic or social value to scientific, commercial and governmental interests. It is hoped that the data provided will eventually produce breakthroughs in the efficiency of such activities as agriculture, forestry, geology, hydrology, geography, meteorology, ecology and oceanography.

There are at present some 300 investigators from the United States and 43 foreign countries and two international organizations expected to participate in specific research projects in the programme, with 25 NASA specialists helping in the organization of the results submitted by each investigator. All investigators have access to all data from the ERTS instruments.

The processing of data obtained from the satellite will take place at the Goddard Space Flight Center in Greenbelt, Maryland, and it is anticipated that more than 300,000 photographs and digital images will be produced each week. These will be available to the public, especially at the United States Department of Interior's new Earth Resources Observation Systems Data Center in Sioux Falls, South Dakota.

All the space activities which I have just mentioned are truly impressive and I wish, on behalf of the Committee, sincerely to congratulate all countries concerned on the tremendous successes science and human ingenuity have thus achieved through their efforts.

I come now to the work before the Committee in the legal field and in the scientific and technical domain. I feel obliged, first of all, to thank the Chairman of the Legal Sub-Committee, Dr. Wyzner of Poland, who is here with us this afternoon; the Chairman of the Scientific and Technical Sub-Committee, Professor Carver of Australia; and the Chairman of the Working Group on Remote Sensing, Dr. Fiorio of Italy, for the excellent work they have done.

The reports before us clearly reflect the progress which was made during the past year. I particularly welcome the decision of the Legal Sub-Committee to authorize its Chairman, Dr. Wyzner, officially to present the report of that Sub-Committee to us. I shall therefore not go into any further detail of the legal report but rather attempt a brief general appraisal of what has been done.

In accordance with a decision taken at our last session in September 1971, the Sub-Committee dealt with, as matters of priority, questions relating to the moon and to the registration of space objects.

The Legal Sub-Committee at its eleventh session established a Working Group for an article-by-article consideration of proposals relating to a draft international treaty concerning the moon. The Working Group formulated the text of the preamble and 21 articles of the draft treaty; they were approved by the Sub-Committee and are contained in paragraph 21 of its report. The draft treaty is, however, as yet incomplete, and provisions on which agreement was not reached were placed within square brackets. There are several issues to be settled before the draft treaty can be finalized.

One fundamental aspect which still needs to be resolved pertains to the scope of the treaty, namely, whether the treaty should be formulated so as to apply also to "other celestial bodies". On this matter different views were expressed by the members of the Legal Sub-Committee. Another major question

relates to whether or not the provisions of the draft treaty should extend to cover the natural resources of the moon. Some delegations strongly advocated the inclusion of provisions in the draft treaty to cover natural resources of the moon as well. On the other hand, there were delegations which took the position that it might be too early at this stage of exploration, when little is known of the technological possibilities and economic uses of the natural resources of the moon, to provide for a legal régime for the resources of the moon. The other questions relate to a proposal concerning notification and reporting on moon missions and the question of the liability of States for damage caused on the moon.

Many of the principles on which the present draft treaty is based are to be found in the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies, and those principles have found reaffirmation in the provisions of this draft treaty. The draft treaty, however, on several matters, even in its present incomplete state, represents a significant advance over earlier agreements, and a substantial amount of agreement on new treaty provisions has been reached. I would therefore express a moderate amount of optimism on the chances of finalizing this treaty, perhaps in the course of this session, and transmitting it to the General Assembly at its twenty-seventh session for final approval.

I appeal to all representatives to make every effort to reach solutions for the few still outstanding questions of a substantive nature, of which I am of course perfectly aware.

So far as the question of registration of space objects is concerned, we have learned from the report of the Legal Sub-Committee that the two previous drafts presented by Canada and France were merged in a single text, which will provide the basis for further deliberations on the subject by this Committee and the Legal Sub-Committee.

I turn now briefly to the activities of our Committee in the scientific and technical fields. I feel that now that the Committee on the Peaceful Uses of Outer Space has been in existence for some 10 years the time may have come to reflect upon, to review and to appraise the work of the Committee and its Scientific and Technical Sub-Committee in a comprehensive and perhaps sometimes necessarily critical way. While not attempting to prejudge in any way the positions and points of view of members of this Committee on the various subjects, I would nevertheless ask permission to present a few personal considerations.

It is commonly stated that our Committee should be the focal point of United Nations activities in outer space. In the scientific and technical area some of the initiatives taken in the past, such as the sponsorship of launching facilities, have encouraged international co-operation in space science. While this is an important feature, it is becoming increasingly obvious that the field of major activity in the future will be the area of space applications. During the 1970s these applications and their political, scientific and legal aspects should therefore be a main concern of this Committee. United Nations action in this field has been relevant in some areas but fairly reduced in others. Let me just give a few examples in proof of this statement.

In the field of meteorology the General Assembly, on the initiative of some Members of the United Nations, started the World Weather Watch in 1961. As far as communications are concerned, the General Assembly considered this subject for the first time in its resolution 1721 D (XVI) and stated that

"... communications by means of satellites should be available to the nations of the world as soon as practicable on a global and non-discriminatory basis".

That belief has been reiterated several times, the last time in General Assembly resolution 2776 (XXVI).

The Committee has so far never openly considered the possibility of a role for the United Nations in the organization of a multinational or global system.

As to the question of direct broadcast, it was implicit in the recommendations of the Working Group created to study the subject during 1969 and 1970 that the Group did not visualize a role for the United Nations in the organizational aspects, but thought it necessary that the United Nations should take actions in the regulatory and legal aspects. The present proposal of a convention on principles governing the use of satellites for direct television broadcast which the USSR has requested be considered by the General Assembly will presumably require action by this Committee and the Legal Sub-Committee and/or the Working Group.

As far as the question of navigation and communication services for maritime and aeronautical uses is concerned, the Scientific and Technical Sub-Committee, as we all know, created a Working Group on Navigation Satellites as far back as 1967. The Working Group has asked IMCO and ICAO to keep the matter under consideration but has not met since then. Several countries are in the final study of an experimental aerosat system and a subsequent operational system for the Pacific and the North Atlantic. ICAO and IMCO have studied the problem. Even though it is a subject of less relevance to the developing countries, it is perhaps regrettable that the Committee on the Peaceful Uses of Outer Space has not taken action in regard to the organization of any system that might be created to solve maritime and aeronautical needs.

Let me now say a few words about a subject which is of direct concern to the actual work of the Committee - the question of remote sensing.

The Working Group for Surveying the Earth by Satellites has met, and it is expected that the final report will be submitted during 1973. In its consideration of its objectives in this area, the Committee should give due consideration to the advice of both the Scientific and Technical Sub-Committee and the Legal Sub-Committee. Particularly with regard to remote sensing, in view of the initial success of the ERTS it should, in my view, request from the Working Group and the Scientific and Technical Sub-Committee definite proposals - in accordance with the terms of reference, of course - for United Nations action, if any, in this field. Particularly as it is a multidisciplinary activity and of interest to other bodies of the General Assembly and the Economic and Social Council - that is, the Committee on Natural Resources and the proposed organization for the environment - it should consider how these activities could be co-ordinated.

One of the objections that might be raised to such a proposal is that such action by the United Nations might be premature. It should be recalled, however, that the World Weather Watch was created when meteorological satellites were in their early stage of development and that many of the capabilities which are the basis of the present operational system were acquired only later. A

cautious but nevertheless optimistic vision of the future should guide the activity of the Committee in such a way as to allow all the countries of the world to share in the possible benefits of the system with adequate time to consider their participation, prepare their personnel, develop adequate facilities, obtain new instrumentations, and so on, beforehand.

Finally - and I would ask members to forgive me for taking up so much of their time - I want to touch upon the area which should, I think be given a very prominent place in the deliberations of our Committee in the years to come: the Programme on Space Applications. The Programme has now been in existence for two years. In 1971, it operated virtually without resources. In 1972, some limited resources became available. A programme for 1973 on the basis of a similar level of expense has been approved by the Scientific and Technical Sub-Committee, as have guidelines for 1974.

After two years of operation, with the allocation of a minimum amount of resources, it will be necessary to evaluate how and to what extent this Programme is fulfilling the objectives of the Committee. Therefore, it is my feeling that it will be appropriate for the Committee during 1973 to re-examine the objectives of the Programme on Space Application and to have an evaluation from the Expert on Space Applications of the ways in which the Programme is fulfilling these objectives. The evaluation should be considered by the Scientific and Technical Sub-Committee during 1974 so as to allow the Committee to make proposals to the General Assembly at the end of that same year, at the latest. This will be necessary also because it is expected that at that time the characteristics of operational systems in the area of remote sensing and perhaps in direct broadcast will be known, and it will be possible to define the future activity of the promotion of space applications based on a long-term programme.

When we reflect upon the work programme of the Committee and its Scientific and Technical Sub-Committee vis-à-vis the Programme on Space Applications, it is apparent that because of the generalized and crowded agenda the Sub-Committee is often unable to give detailed consideration to the Programme on Space Applications. It might be considered more productive for the Committee, as the policy-oriented body, to establish a system of priorities and direct the Sub-Committee to study and make definite recommendations on given priority items each year. This would eliminate the need for ad hoc working groups, encourage expert representation at, and thereby enhance the effectiveness of, the meetings of the Sub-Committee. Above all, the Sub-Committee would be able to give in-depth consideration and propose useful programmes, at least in a few of the vital areas of space applications already described.

In attempting to evaluate some aspects of the future role of the Committee on the Peaceful Uses of Outer Space, I must say that I feel rather strongly about a few aspects of our future work. I think that what this Committee should try to do is to avoid being merely a rubber-stamping agency for reports submitted by our Sub-Committees, being only a sort of mail service in transmitting the decisions and recommendations of those organs to the General Assembly. This would certainly not be conducive to the enhancement of the reputation and effectiveness of our Committee and of its members. I think we must rather seek to provide leadership, to come forward with our own initiatives and to give directives to the Sub-Committees and the Working Group concerning all aspects of their work.

It is solely up to our Committee to shape the role for the future. As the policy-oriented focal point, it is up to the Committee to identify the interests of the international community in the field assigned to it and to ensure that due action is being taken in important areas of space applications. If the Committee establishes a work programme and proper priorities for both its Sub-Committees it will not be considered simply a body which only formalizes the work of its subsidiary organs but a real catalyst for international action in the area of space applications as well as in other areas.

I hope that all those considerations will be understood in their proper perspective by the members of this Committee. I repeat that in giving these few ideas I do not want to prejudge any recommendations or decisions the Committee may wish to take, because only the entire membership can give policy directives in the sense I have tried to outline. In any case, whatever the positions of various delegations might be with respect to any substantive questions, I hope that we might on this basic aspect address ourselves to these questions in the same way and find this common basis for our future work, which will, I am sure, be of tremendous importance for the future existence of this Committee.

I submit that it is only in this way that our Committee will be able to justify the hopes for its efforts of the Members of the United Nations as a whole, that our Committee will be able to mobilize support from all of them.

As, indeed, for all agencies and organizations of our world Organization, this universality of support, interest and co-operation is vital for the performance of our tasks, and I hope that the two weeks of hard - and I hope also enthusiastic - work lying ahead of us will bring us a little closer to that end.

ANNEX III

Statement by the Chairman of the Legal Sub-Committee at the 110th meeting of the Committee on 5 September 1972

Mr. Chairman, may I first of all express my gratitude for the very kind words which you addressed to the Legal Sub-Committee and to me personally. May I also extend to you my warm congratulations on your election to the chairmanship of the Committee on the Peaceful Uses of Outer Space. Your remarkable ability in dealing with international problems and in promoting international co-operation is well known to all of us. I have, therefore, no doubt that under your most competent guidance the work of the Committee will be assured of success, as it was under the leadership of your illustrious predecessor.

Similarly, may I congratulate the newly-elected Vice-Chairman of the Committee, Ambassador Datcu of Romania. I have met him in many United Nations bodies and I know that because of his outstanding talents and experience he will prove a valuable addition to the Bureau, in which you and all the members are fortunate to have Mr. Souza e Silva of Brazil as a learned and trusted Rapporteur.

It is at the request of the Legal Sub-Committee that I am here today to present to the Committee the Sub-Committee's report on the work of its eleventh session, and to provide information on the draft texts contained in the report. I need hardly add that it is for me, both as Chairman of the Legal Sub-Committee and personally, a great pleasure and privilege to be present again in this Committee.

The eleventh session of the Legal Sub-Committee was held in Geneva from 10 April to 5 May of this year. It was a positive and a most constructive and fruitful session, where over the short period of four weeks much was done and much was achieved.

It is true that I cannot inform this Committee, as I was able to do in September of last year when I had the honour to present the draft convention on international liability for damage caused by space objects, that on this occasion too it will find the completed text of a draft treaty in the Sub-Committee's report.

Yet the Committee will certainly find that on at least one of the two subjects which were considered by the Sub-Committee as matters of priority, we have come remarkably close to conclusion. Indeed, the hope was voiced that perhaps some rethinking on the part of delegations between May and September on the few but nevertheless important issues - which you have already touched upon in your statement, Mr. Chairman - that remain to be resolved in the preparation of the draft treaty on the moon may possibly lead to the completion of that draft treaty at the present session of the Committee on the Peaceful Uses of Outer Space.

It will be recalled that at its fourteenth session in September of last year this Committee, in response to a request made by the Legal Sub-Committee, considered the desirability of establishing an order of priority with respect to

the questions to be included in the agenda of future sessions of the Legal Sub-Committee. While recognizing that it was within the competence of the Legal Sub-Committee to assign priorities to the various subjects on its agenda, this Committee nevertheless recommended that priority be given to matters relating to the registration of objects launched into space for the exploration or use of outer space, and to questions relating to the moon. The Committee, at the same time, took note of the preference expressed by several delegations that priority also be given to the various implications of space communications, matters relating to the definition and/or delimitation of outer space and outer space activities, and matters relating to activities carried out through remote sensing satellite surveys of earth resources.

These recommendations of the Committee were, as members are aware, endorsed by the General Assembly in resolution 2776 (XXVI) of 29 November 1971.

The Committee also noted, at its fourteenth session, that the USSR had submitted to the General Assembly at its twenty-sixth session a draft international treaty concerning the moon, on which some members of the Committee made observations. In its resolution 2779 (XXVI) of 29 November 1971, the General Assembly, among other things, took note of the draft treaty proposed by the USSR and requested that this Committee and its Legal Sub-Committee consider, as a matter of priority, the question of the elaboration of a draft international treaty concerning the moon. The General Assembly also requested that a report thereon be made to it at its twenty-seventh session.

The Legal Sub-Committee was mindful of these General Assembly resolutions and the recommendations of the Committee when adopting its agenda and deciding on the organization of its work for its eleventh session. The Sub-Committee thus accorded priority to items 2 and 3 of its agenda, namely, "Matters relating to the registration of objects launched into space for the exploration or use of outer space" and "Questions relating to the moon". The Sub-Committee also provided delegations with the opportunity to express their views on the other questions which were included under item 4 of the Sub-Committee's agenda and to which I have just referred, and to have those views recorded in the summary records. As members know, summary records were maintained only for the fourth week of the Sub-Committee's eleventh session, in accordance with a decision taken by this Committee.

On the two priority subjects, the Sub-Committee sought to accord the fullest opportunity to delegations to consider the two subjects as thoroughly as possible in the time available: in the plenary meetings of the Sub-Committee; in working groups of the whole which were established by the Sub-Committee for each of the two subjects, for article-by-article consideration of proposals; and, whenever it was deemed necessary, by allowing for informal consultations and negotiations between delegations.

The Committee will note that it was under item 3 of the Sub-Committee's agenda, namely, "Questions relating to the moon", that greater progress was made. May I therefore speak first on that item. It is dealt with in paragraphs 15 to 21 of the Sub-Committee's report (A/AC.105/101).

The preparation, under item 3 of its agenda, of a draft treaty on the moon seemed desirable and important to the Sub-Committee. Since the outer space Treaty was adopted by the General Assembly in 1966, great advances have been made in the

exploration and use of outer space, in particular in the exploration of the moon. Men and mechanical devices of almost unimaginable ingenuity have been sent to the moon; men and mechanical devices of considerable mobility have travelled over wide areas of the moon; and samples have been brought back to earth. Even while the Sub-Committee was in session, a United States expedition, in the Apollo series, journeyed to the moon, spent several days on the moon and returned to earth with an unprecedented quantity of the substance of the moon for study. The expeditions of the USSR and its experiments conducted with the help of Lunokhod and other automatic instruments have shown the remarkable degree to which exploration of the moon by mechanical devices capable of moving over large distances for periods of several months have been developed. Unmanned exploration of the planets Venus, Mars and Jupiter has also begun. Undoubtedly, in the not too distant future more countries will participate in manned and unmanned explorations of outer space, individually as well as through programmes of international co-operation.

The 1968 Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space and the 1972 Convention on International Liability for Damage Caused by Space Objects, respectively, developed and elaborated the basic provisions on assistance and return as well as liability, contained in the outer space Treaty. It seemed then timely and necessary that a specific draft treaty on the moon and perhaps on other celestial bodies as well should be formulated on the basis of the outer space Treaty.

Accordingly, the Sub-Committee, shortly after the commencement of its session, considered it desirable, having regard to the fact that there were already certain specific proposals before it with respect to the moon, that a working group of the whole should be established for article-by-article consideration of proposals.

The proposals considered by the Working Group are mentioned in paragraphs 16-18 of the Sub-Committee's report. The basis of the Working Group's examination of provisions was the USSR draft "international Treaty concerning the Moon", which contained the texts of a preamble, 11 substantive articles, and final clauses. The Committee will also note that a number of specific proposals were made by other delegations in the course of the Working Group's discussions, many of them by the delegation of the United States.

The texts finally formulated by the Working Group and approved by the Sub-Committee are set out in paragraph 21 of the Sub-Committee's report.

Members will note that the text contains a preamble and the provisions of 21 articles, including final clauses. The draft treaty, as members will note, however, requires completion, and provisions on which agreement was not reached were placed within square brackets.

One fundamental aspect which still needs to be resolved pertains to the scope of the treaty, namely, whether the treaty should be formulated so as to apply also to "other celestial bodies". On this matter, as the summary records of the Sub-Committee will show, different views were expressed. On the one hand, it was said that the treaty should be formulated so as to apply only to the moon, as human knowledge of conditions on celestial bodies other than the moon was, comparatively speaking, of a very limited nature. On the other hand, it was pointed out that the provisions formulated in the draft treaty appeared to be entirely appropriate for application to other celestial bodies as well. This was clearly a matter, however, on which some further deliberation was necessary. One

possible solution is that mentioned in the foot-note to the first preambular paragraph, namely, that a provision might be included in the treaty stating that the treaty shall apply also to other celestial bodies until such time as provision is made in other treaties in relation to specific celestial bodies.

I would add, however, that once it is decided that the treaty should apply only to the moon, or to the moon and other celestial bodies as well, only minor textual amendments will be required to deal with this point in the final text of the treaty.

A number of the principles on which the present draft treaty is based are to be found in the outer space Treaty, and these principles have been reaffirmed in provisions of the draft treaty. As you, Sir, have noted, the draft treaty does, however, represent on many matters a significant advance on what was obtained before, and a substantial amount of agreement on new treaty provisions has been reached.

I should like to draw attention, for example, to such matters as:

Prohibition of the threat or use of force or any other hostile act or threat of hostile act (article II, paragraph 2);

Provision to the effect that in all activities covered by the treaty due regard should be paid to the interests of present and future generations (article IV, paragraph 1);

The widest possible international co-operation in pursuance of the treaty on a multilateral basis, on a bilateral basis, or through international intergovernmental organizations (article IV, paragraph 2);

Provision to the effect that the Secretary-General as well as the public and the international scientific community should be informed, to the greatest extent feasible and practicable, of activities covered by the treaty (article IV, paragraph 3);

The right to collect and remove samples of mineral and other substances and making a portion of such samples available to other interested States Parties and the international scientific community for scientific investigation (article V, paragraph 2);

Measures to minimize the disruption of the existing balance of the environment whether by introducing adverse changes in such environment, harmful contamination through the introduction of extra environmental matter or otherwise (article VI, paragraph 1);

Designation of areas having special scientific interest as international scientific preserves for which special protective arrangements are to be agreed (article VI, paragraph 4);

Provision to the effect that to pursue their activities covered by the treaty, States Parties may move freely personnel, space vehicles, equipment, facilities, stations and installations over or below the surface of the moon (article VII, paragraphs 1 and 2);

Provision to the effect that a State Party may establish a manned or unmanned station, use only that area which is required for the needs of the station, and provide the Secretary-General with immediate information on the location and purposes of that station and with subsequent information at annual intervals (article VIII, paragraph 1);

Obligation to offer shelter in stations, installations, vehicles and other facilities to persons in distress (article IX, paragraph 2);

Provision to the effect that all space vehicles, equipment, facilities, stations and installations shall be open to any State Party which may assure itself that the activities of other States Parties are compatible with the provisions of the Treaty; a projected visit requires reasonable advance notice and appropriate consultations may be held to avoid interference with normal operations in the facility to be visited (article XVI, paragraph 1);

Procedures for consultations between States Parties with respect to the fulfilment of obligations under the Treaty and provision for the Secretary-General's assistance to be sought should a mutually acceptable settlement not be reached through consultation or other peaceful means chosen by the parties concerned as appropriate to the circumstances and nature of the dispute (article XVI, paragraphs 2 and 3).

Still, some further work remains to be done before the draft treaty can be regarded as in final form. On the other hand, as I have pointed out, much progress has been registered in the Sub-Committee on the general pattern of the draft treaty and on many specific provisions; and the clauses on which further consideration was deemed desirable are now known to delegations; and delegations are aware of each other's views on those provisions.

Moreover, and perhaps most important of all, there was in the Sub-Committee a confidence that much had been achieved through mutual understanding of points of view and close co-operation in formulating texts in areas of agreement. There was confidence also that existing differences were understood and appreciated, and that further deliberations on the part of Governments would lead in the near future, and hopefully at this present session of the Committee on the Peaceful Uses of Outer Space, to complete success.

I shall now turn to the second subject accorded priority at the Sub-Committee, namely, "Matters relating to the registration of objects launched into space for the exploration or use of outer space", item 2 of the Sub-Committee's agenda. It is dealt with in paragraphs 22 to 31 of the Sub-Committee's report.

There were two proposals before the Sub-Committee under this item: namely, a draft convention proposed at the eighth session of the Sub-Committee by the delegation of France, concerning the registration of objects launched into space for the exploration or use of outer space; and a draft convention, proposed this year by the delegation of Canada, on the registration of objects launched into outer space.

As has been noted in paragraph 28 of the Sub-Committee's report, following consultations between the two delegations, the two draft conventions were combined into a single draft convention proposed jointly by the delegations of Canada and France.

As in the case of its consideration of the draft treaty on the moon, the Sub-Committee established a Working Group of the whole for article-by-article consideration of the joint draft convention.

The text prepared by the Working Group is set out in paragraph 31 of the Sub-Committee's report. Those provisions on which agreement in the Working Group was not reached were placed within square brackets again.

Certain delegations still entertained substantive reservations on whether the preparation of a draft convention on registration of objects launched into outer space would in fact serve a useful purpose in the identification of space objects, and they referred to the technical problems which would be raised by a treaty requiring the marking of space objects. While understanding the importance other delegations attached to the ability to identify fragments of man-made space objects that might return to earth, they did not believe that marking would ensure identification, and reference was made in this connexion to the conclusions reached on the matter by the Scientific and Technical Sub-Committee in 1970.

On the other hand, a number of delegations in the Sub-Committee believed that a draft convention on registration was indeed necessary and important. It was their opinion that an adequate system of international registration of space objects would establish a legal link between a State and the space objects it launches and would assist in identification; and that such a system of adequate registration would facilitate the application of the evolving legal régime for outer space activities. They noted that the outer space Treaty incorporated in article VIII the concept of "State of registry" and stated that an adequate system of registration would assist in the identification of space objects for purposes of the Convention on Liability as well as for purposes of the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.

The Committee will note that the provisions of the draft convention on registration prepared by the Working Group, which are not within square brackets, would provide both for a system of registration by launching States, and for the maintenance of a central register at the United Nations by the Secretary-General. In particular, each space object is to be registered by the launching State in the register it maintains, and each launching State is to inform the Secretary-General of the establishment of such register and to provide the Secretary-General with data on significant changes in the information initially furnished. The information so provided to the Secretary-General would be placed in the central register of the United Nations and States Parties should have full access to this information. A provision similar to that contained in the Liability Convention is made for the application of the registration Convention to international intergovernmental organizations.

Those provisions of the draft convention on which agreement was not reached in the Working Group and which appear in square brackets relate to certain matters on which substantial differences of view existed between delegations.

The Sub-Committee noted the text prepared by the Working Group and was of the opinion that the draft convention on registration of objects launched into outer space required further consideration as a matter of priority.

Finally, I should like to draw attention to the recommendations concerning the organization of the future work of the Sub-Committee. First, the Sub-Committee recommended that its next - twelfth - session be held from 26 March to 20 April 1973. Secondly, it agreed that summary records should be prepared and issued for all meetings of its next session in 1973; this latter decision was reached on the understanding gathered from the Secretariat that this would not entail additional financial implications and would not set a precedent for the future. I hope that our parent body will find no difficulty in endorsing those unanimous recommendations of the Sub-Committee.

Having said that, I could probably have concluded my introduction of the Sub-Committee's report. At the risk of abusing your patience, Mr. Chairman, I am tempted, however, to add a few further words of a more personal nature.

My colleagues and friends in this Committee are well aware of the fact that the codification and progressive development of any branch of international law is an arduous task which requires juridical skill, patience and determination on the part of all participating in that process. Speaking frankly, I should add that the so-called consensus procedure as applied in our work, though politically valuable, makes the technical fulfilment of this task even more complicated, for at any time an objection raised may reverse the achievements of many laborious hours of consultations, discussions and drafting work.

Yet, looking back at the last few years of the Sub-Committee's activities - marked by such accomplishments as the 1966 outer space Treaty, the 1968 Agreement on the Rescue of Astronauts, the 1972 Liability Convention, and now an almost-completed draft treaty on the moon - one cannot help but feel that these documents, though far from being perfect and in the last case certainly open for further significant improvement, are nevertheless milestones in the development of a pioneering field: the international law of outer space.

In my opinion, this development can be attributed to at least three factors: first, the heightened sense of urgency dictated by the rapid progress of technological and human advances in the exploration of space, which makes the search for legal rules one of the most fascinating exercises for us lawyers; second, the political will of space Powers and non-space Powers alike to keep outer space free from the evils - unfortunately so well known on the earth - of wars, military abuse, pollution and hatred; and third, the wonderful spirit of understanding and compromise that happily prevails in the Legal Sub-Committee, combined with juridical and diplomatic qualities of the highest standards, possessed by its members and the members of the Secretariat, which makes possible the progress achieved in developing corpus juris spatialis.

I shall therefore conclude by expressing to all my friends, members of the Sub-Committee and of the Secretariat who work with us, my warm and heartfelt gratitude for their unfailing co-operation and support for our common venture: peaceful and harmonious uses of outer space.

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