



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

**GENERAL ASSEMBLY**

**OFFICIAL RECORDS: THIRTY-SECOND SESSION**

**SUPPLEMENT No. 20 (A/32/20)**

**UNITED NATIONS**





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**New York, 1977**

#### **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.**

/9 August 1977/

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## I. INTRODUCTION

1. The Committee on the Peaceful Uses of Outer Space held its twentieth session at Vienna from 20 June to 1 July 1977 under the chairmanship of Mr. Peter Jankowitsch (Austria). Mr. Luiz Paulo Lindenberg Sette (Brazil) served as Rapporteur. The verbatim records of the Committee's meetings are contained in documents A/AC.105/PV.168-178.

### Meetings of subsidiary bodies

2. The Legal Sub-Committee held its sixteenth session at the United Nations Headquarters from 14 March to 8 April 1977 under the chairmanship of Mr. Eugeniusz Wyzner (Poland). The summary records of the Sub-Committee's meetings are given in documents A/AC.105/C.2/SR.266-277 and 279-283. The report of the Sub-Committee was issued under the symbol A/AC.105/196.

3. The Scientific and Technical Sub-Committee held its fourteenth session at the United Nations Headquarters from 14 to 25 February 1977 under the chairmanship of Mr. J. H. Carver (Australia). The summary records of the Sub-Committee's meetings are contained in documents A/AC.105/C.1/SR.175-182 and 187. The report of the Sub-Committee was issued under the symbol A/AC.105/195.

### Twentieth session of the Committee

4. At its opening meeting, on 20 June 1977, the Committee on the Peaceful Uses of Outer Space adopted the following agenda:

1. Welcoming address by the Federal President of the Republic of Austria
2. Statement by the Chairman
3. General debate
4. Report of the Legal Sub-Committee (A/AC.105/196)
5. Report of the Scientific and Technical Sub-Committee (A/AC.105/195)
6. Question of convening a United Nations conference on outer space
7. Other matters
8. Report of the Committee to the General Assembly

5. Representatives of the following Member States attended the session: Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, Czechoslovakia, Egypt, France, German Democratic Republic, Germany, Federal Republic of, Hungary, India, Indonesia, Iran, Italy, Japan, Kenya, Lebanon, Mexico, Mongolia, Morocco, Nigeria, Pakistan, Poland, Romania, Sierra Leone, Sweden, Union of Soviet

Socialist Republics, United Kingdom of Great Britain and Northern Ireland, United States of America and Venezuela.

6. The session was also attended by the Chairman of the Scientific and Technical Sub-Committee.

7. At the 172nd meeting, the Committee agreed to allow the representatives of Colombia and Ecuador to address the Committee during the general debate.

8. Representatives of the Office of the United Nations Disaster Relief Co-ordinator (UNDRO) and the Centre for Natural Resources, Energy and Transport (CNRET) of the United Nations Secretariat also attended the session.

9. Representatives of the following specialized agencies attended the session: Food and Agriculture Organization of the United Nations (FAO), United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Bank, International Telecommunication Union (ITU) and World Meteorological Organization (WMO). The representatives of the European Space Agency (ESA), the Committee on Space Research (COSPAR) of the International Council of Scientific Unions (ICSU), the International Astronautical Federation (IAF) and the European Broadcasting Union (EBU) also attended the session.

10. A list of the representatives of Member States and specialized agencies attending the session is contained in document A/AC.105/XX/INF.2.

11. In addition to the reports of its subsidiary bodies, the Committee had before it the following documents:

- |                             |                                                                                                                                                                                                                                                                                                               |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A/AC.105/197                | WMO Tropical Cyclone Project: report by the World Meteorological Organization                                                                                                                                                                                                                                 |
| A/AC.105/199                | Sixteenth report by the International Telecommunication Union on telecommunication and the peaceful uses of outer space                                                                                                                                                                                       |
| A/AC.105/200                | Report on international co-operation projects at the Thumba Rocket Launching Facilities                                                                                                                                                                                                                       |
| A/AC.105/L.93<br>and Corr.1 | Provisional agenda, with annotations, for the twentieth session                                                                                                                                                                                                                                               |
| A/AC.105/L.94               | Considerations on the legal status of geostationary orbits: working paper submitted by the USSR                                                                                                                                                                                                               |
| A/AC.105/L.96               | Administrative and financial implications of rotating meetings of the Legal Sub-Committee of the Committee on the Peaceful Uses of Outer Space between New York and Geneva                                                                                                                                    |
| A/AC.105/L.97               | Cable dated 20 June 1977 from the Minister for Foreign Affairs of Colombia addressed to the Chairman of the Committee on the Peaceful Uses of Outer Space.<br>Reply dated 22 June 1977 from the Chairman of the Committee on the Peaceful Uses of Outer Space to the Minister for Foreign Affairs of Colombia |



A/AC.105/L.99      Text formulated on Draft Principles on Direct Television Broadcasts (see annex VII)

A/AC.105/L.100      Possible United Nations Conference on Outer Space: working paper by Austria, Brazil, Canada, Egypt, India, Indonesia and Kenya - Proposed text for inclusion in the draft report of the Committee

12. At the opening of the session, at the 168th meeting, the Federal President of the Republic of Austria made a statement to the Committee as well as to invited members of the diplomatic community in Vienna, commemorating the twentieth anniversary of man's venture into outer space. The text of the statement is annexed to the present report (annex I). At the same meeting, the Under-Secretary-General for Political and Security Council Affairs read a message of the Secretary-General to the twentieth anniversary session of the Committee (annex II) and a statement was also made by the Chairman of the Committee (annex III).

13. The Committee held its general debate on the items before it at the 169th to 173rd meetings from 21 to 23 June 1977, in the course of which statements were made by the representatives of Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, Czechoslovakia, Egypt, France, the German Democratic Republic, Germany, Federal Republic of, Hungary, India, Indonesia, Iran, Italy, Japan, Kenya, Mexico, Mongolia, Nigeria, Pakistan, Poland, Romania, Sierra Leone, Sweden, the Union of Soviet Socialist Republics, the United Kingdom of Great Britain and Northern Ireland, the United States of America and Venezuela. Those statements are contained in the verbatim records of the 169th to 173rd meetings of the Committee (A/AC.105/PV.169-173).

14. The representatives of Colombia and Ecuador, the Chief of the Outer Space Affairs Division, the United Nations Expert on Space Applications and representatives of CNRET, UNDRO, ITU, FAO, UNESCO, WMO, the World Bank, European Space Agency (ESA), COSPAR and IAF also made statements. Those statements are contained in the verbatim records of the 169th, 170th and 173rd to 176th meetings of the Committee (A/AC.105/PV.169, 170 and 173-176).

15. After considering the various items before it, the Committee at its 178th meeting, on 1 July 1977, adopted its report to the General Assembly containing the recommendations and decisions set out in the paragraphs below.

## II. RECOMMENDATIONS AND DECISIONS

### A. Report of the Legal Sub-Committee

16. The Committee took note with appreciation of the report of the Legal Sub-Committee on the work of its sixteenth session (A/AC.105/196) covering the results of its deliberations on the four items assigned to it by the General Assembly in its resolution 31/8 of 8 November 1976.

17. The Committee took note of the work done by the Sub-Committee in its effort to complete the text of the draft treaty relating to the moon, as indicated in paragraphs 18 to 21 of its report and in the report of the Chairman of Working Group I contained in annex I of the report of the Sub-Committee. The Committee noted, in particular, that Working Group I of the Sub-Committee continued to give priority to the question of natural resources of the moon, which was widely considered as the key issue whose solution could facilitate an agreement on the two remaining issues. The Committee further noted that during the exchange of views conducted by the Working Group efforts had been made to reach a compromise solution which, unfortunately, had proved unsuccessful owing to lack of consensus.

18. In the course of its present session, the Committee heard statements by its members underlining some basic issues with which the Sub-Committee had been confronted.

19. The Committee agreed that the Legal Sub-Committee at its seventeenth session should continue to consider, as a matter of high priority, the draft treaty relating to the moon.

20. The Committee noted that the Legal Sub-Committee had made considerable progress in the elaboration of principles governing the use by States of artificial earth satellites for direct television broadcasting, with a view to concluding an international agreement or agreements, in accordance with General Assembly resolutions 2916 (XXVII) of 9 November 1972, 3388 (XXX) of 18 November 1975 and 31/8 of 8 November 1976. In particular, the Committee noted with satisfaction that the Sub-Committee, through its Working Group II, had been successful in formulating a tentative text of a principle of "consultation and agreements between States" and a draft preamble.

21. In this connexion, the Committee noted the hope expressed by the Sub-Committee in paragraph 27 of its report that, in view of the developments in the Sub-Committee, the task entrusted to it by the General Assembly in its resolution 31/8 would be fulfilled at the current session of the Committee on the Peaceful Uses of Outer Space.

22. In response to this recommendation, the Committee at its 173rd meeting agreed to establish a working party of the whole to review the outstanding matters and try to achieve progress towards agreement on them.

23. The working party held four meetings under the chairmanship of Mr. Peter Radel (Austria), who reported on the results of its work to the Committee at its 175th meeting.

24. The working party concentrated on removing the square brackets contained in the text of the draft preamble and the principle on "consultation and agreements between States", formulated by the Legal Sub-Committee at its sixteenth session in New York (A/AC.105/196, annex II). It also discussed the separate paragraphs proposed by some delegations in the Legal Sub-Committee for inclusion in the preamble (A/AC.105/196, annex II, appendix), but, owing to lack of time, it did not complete the discussion.

25. The working party was able to achieve significant progress in removing the square brackets from and in improving the drafting of some paragraphs of the draft preamble but no agreement was reached on the paragraphs proposed for inclusion in the preamble. In this connexion, the Committee noted that the delegation of Italy had circulated an informal working paper proposing certain amendments to the first preambular paragraph.

26. On the principle on "consultation and agreements between States" the working party also made progress in removing square brackets that appeared in the text of paragraphs 1 and 2 of that principle and in revising part of the text of paragraph 1. The working party also held a long debate on the text of paragraph 3 of that principle but no agreement was reached, and it was decided to include within square brackets the text formulated for this paragraph by the Legal Sub-Committee as well as five other alternative proposals submitted during the consideration of this principle. Upon the request of some delegations, it was decided that the entire texts of paragraphs 1 and 2 should also remain within square brackets for the time being. Some delegations questioned the need for a principle on "consultation and agreements between States" in view of the provisions of the relevant instruments of ITU. Other delegations considered that the aforementioned ITU instruments did not pre-empt the need for principles governing direct television broadcasts as recommended by the General Assembly in resolution 2916 (XXVII).

27. Some delegations considered that, owing to the wording of the proposed principle on "consultation and agreements between States", the principle on "duty and right to consult" should be reconsidered in order to avoid inconsistencies and redundancies. Other delegations were of the opinion that the text of the principle on "duty and right to consult" as already agreed to by Working Group II of the Legal Sub-Committee should be maintained except for some drafting changes that might be necessary.

28. The texts formulated by the working party on the draft preamble and the principle on "consultation and agreements between States" are reproduced in annexes IV and V, to the present report.

29. The Committee, having heard the elaboration of views by its members on the outstanding issues and taking into account the progress achieved in the Legal Sub-Committee and at the current session of the Committee, recommended that the Legal Sub-Committee, at its seventeenth session, should continue to consider, as a matter of high priority, the elaboration of principles governing the use by States of artificial earth satellites for direct television broadcasting, with a view to concluding an international agreement or agreements, in accordance with General Assembly resolutions 2916 (XXVII) and 31/8.

30. The Committee noted that the Legal Sub-Committee, in continuing its detailed

consideration of the item relating to legal implications of earth resources survey by remote sensing satellites, as requested by General Assembly resolution 31/8, had also made significant progress. The Committee noted with satisfaction that, through its Working Group III, the Legal Sub-Committee had been able to formulate the texts of six additional draft principles referred to in paragraphs 9 to 12 of the report of that Working Group.

31. The Committee recommended that the Sub-Committee should continue, on the basis of high priority, to give detailed consideration to the legal implications of remote sensing, with the aim of formulating draft principles relating to remote sensing. Many delegations considered that this work should continue, as in the past, on the basis of common elements identified by the Sub-Committee. Other delegations pointed out that they did not share the opinion that identification of common elements was the most effective and the only possible method of formulating principles on remote sensing. In this connexion, some delegations expressed the view that it was necessary to work out a general acceptable text of a principle to safeguard the sovereign rights of all countries, in particular, the sovereign rights of developing countries, over their natural resources as well as information concerning those resources. They felt that the draft text appearing in annex III of the Legal Sub Committee's report (A/AC.105/196) could serve as a basis for discussion and elaboration of this principle. Other delegations expressed the view that the concept of State sovereignty did not include sovereignty over information concerning natural resources and that, consequently, no such principle was required.

32. The Committee also noted that questions relating to the definition and/or delimitation of outer space and outer space activities had also been discussed by the Legal Sub-Committee in the course of two of its meetings and that this discussion had been the occasion for a new exchange of views. Certain delegations stressed the need for a definition or delimitation of outer space and expressed the view that this item should have a higher priority when the Committee concluded its work on other items at present on the agenda. The Committee decided that, at its seventeenth session, the Legal Sub-Committee should pursue its work on questions relative to the definition and/or delimitation of outer space and outer space activities.

33. In the course of the discussion, reference was also made to the question of the geostationary orbit and some delegations suggested that the parent Committee might also wish to consider this matter in more detail. In this connexion, the Committee noted a working paper submitted to the Committee by the Union of Soviet Socialist Republics containing considerations on the legal status of geostationary orbits (A/AC.105/L.94), which is annexed to the present report (annex VI). The Committee recommended to the Legal Sub-Committee that it should also bear in mind questions relating to the geostationary orbit.

34. The Committee observed that, at its 281st meeting, the Legal Sub-Committee, noting that 10 October 1977 would be the tenth anniversary of the entering into force of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, 1/ had approved a draft resolution contained in paragraph 13 of its report and had recommended that it be forwarded by the Committee to the General Assembly

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1/ General Assembly resolution 2222 (XXI), annex.

for consideration and adoption at its thirty-second session. The Committee welcomed the adoption of that draft resolution and decided to forward it to the General Assembly for its consideration and adoption at its thirty-second session. The draft resolution read as follows:

Tenth anniversary of the entry into force of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies

The General Assembly,

Noting that ten years have passed since the entry into force of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,

Confirming the great importance of the Treaty for the development of international co-operation in the peaceful exploration and use of outer space, including the moon and other celestial bodies, and for developing the rule of law in this sphere of human activity,

Convinced that during the decade in which the Treaty has been in force it has played a positive role in the implementation of the purposes and principles of the Charter of the United Nations and the progressive development of the law of outer space, including the elaboration and adoption of other international instruments governing the outer space activities of States,

Noting that ... States have become parties to the Treaty,

Recognizing that participation in the Treaty contributes to the peaceful exploration and use of outer space for the benefit of all mankind, regardless of the degree of economic or scientific development of States, and to the development of mutual understanding and the strengthening of friendly relations among States and peoples,

Recalling its resolutions 2260 (XXII) of 3 November 1967, 2453 (XXIII) of 20 December 1968, 2601 (XXIV) of 16 December 1969, 2733 (XXV) of 16 December 1970, 2776 (XXVI) of 21 November 1971, 2915 (XXVII) of 9 November 1972, 3182 (XXVIII) of 18 December 1973, 3234 (XXIX) of 12 November 1974, 3388 (XXX) of 18 November 1975 and 31/8 of 8 November 1976, in which it invited States which had not yet become parties to the Treaty to give early consideration to ratifying or acceding to it.

Expressing the belief that the participation in the Treaty of all States and the application of this international instrument by them can contribute to enhancing the effectiveness of international co-operation in the peaceful exploration and use of outer space, including the moon and other celestial bodies,

1. Invites States which have not yet become parties to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, to ratify or accede to it as soon as possible;

2. Requests the Secretary-General to undertake research analysing the experience gained in the application of the Treaty over the past ten years and showing its importance for the development of international co-operation in the practical application of space technology;

3. Recommends that the Committee on the Peaceful Uses of Outer Space should consider at its next session possible measures to encourage the largest possible number of States to participate in the Treaty.

35. The Committee also noted that the Legal Sub-Committee had paid tribute to its Chairman and had adopted a draft resolution, contained in paragraph 14 of its report, on the tenth anniversary of Mr. Eugeniusz Wyzner's chairmanship of the Legal Sub-Committee, as well as its expression of appreciation for the services rendered by its Secretary, Miss Kwen Chen, who had ended her services with the Sub-Committee after 15 years. The Committee added its own appreciation for the outstanding contribution made by its Chairman and its Secretary to the work of the Sub-Committee.

36. The Committee, having discussed the report of the Legal Sub-Committee relating to (a) the draft treaty relating to the moon, referred to in paragraphs 17 to 19 above, (b) the elaboration of principles governing the use by States of artificial earth satellites for direct television broadcasting, referred to in paragraphs 20 to 29 above, (c) legal implications of remote sensing of the earth from space, as referred to in paragraphs 30 and 31 above, and (d) matters relating to the definition and/or delimitation of outer space and outer space activities, as referred to in paragraphs 32 and 33 above, and having heard the views expressed by its members in regard to the programme of work and the priority items to be considered by the Legal Sub-Committee at its next session, recommended that the Legal Sub-Committee should continue to consider with the same high priority the issues covered by items (a), (b) and (c), and called upon the Legal Sub-Committee to continue its work on this basis at its following session. The Committee also requested the Legal Sub-Committee to continue its work on item (d) above.

#### B. Report of the Scientific and Technical Sub-Committee

37. The Committee took note with appreciation of the report of the Scientific and Technical Sub-Committee on the work of its fourteenth session (A/AC.105/195). In considering the various recommendations of the Sub-Committee contained in the report, the Committee expressed its views as set out in the following paragraphs.

##### 1. Remote sensing of the earth from space

38. The Committee noted with satisfaction that the Scientific and Technical Sub-Committee, in its examination of the question of remote sensing of the earth from space, had continued to consider in detail both the current pre-operational/experimental phase and a possible future global/international operational phase.

39. The Committee also noted with satisfaction that the Sub-Committee gave detailed examination to the question of definitions as recommended by the Committee at its eighteenth <sup>2/</sup> and nineteenth <sup>3/</sup> sessions. The Committee in particular noted the efforts that the Sub-Committee had further made to clearly define the term "data".

<sup>2/</sup> Official Records of the General Assembly, Thirtieth Session, Supplement No. 20 (A/10020), para. 34.

<sup>3/</sup> Ibid., Thirty-first Session, Supplement No. 20 (A/31/20), para. 37.

The Committee, in this connexion, recommended that the Legal Sub-Committee should adopt the terms of primary data and analysed information, on the basis of the definitions developed by the Scientific and Technical Sub-Committee, and should bear in mind those definitions in its work. The Committee further agreed with the view expressed by the Sub-Committee in paragraph 32 of its report that the present state of the art involved a particular sequence of system elements, whereas later generations of remote sensing satellites might operate differently and, therefore, any definitions arrived at in the present context might be relevant only for the present state of technology.

40. The Committee also noted that the Sub-Committee had discussed a proposal to classify remote sensing data into three categories - global, regional and local - based on spatial resolution, but that there was no agreement in the Sub-Committee on the concept or the need for such classification or that they should be made solely on the basis of spatial resolution. In this connexion, the Committee agreed with the view of the Sub-Committee that an attempt should, however, be made on scientific bases to provide a technical definition of spatial resolution and to determine what aspects of data, such as resolution, spectral characteristics, polarization, etc., may correspond to particular applications. The Committee therefore endorsed the recommendation of the Sub-Committee that the Secretariat should conduct a study on the matter on the lines suggested in paragraphs 37 to 39 of the Sub-Committee's report, which would be discussed by the Sub-Committee at its next session.

41. The Committee, noting the inconclusive discussion which took place in the Sub-Committee concerning the dissemination of remote sensing data, nevertheless endorsed the view of the Sub-Committee, contained in paragraph 41 of its report, that there was no scientific or technical basis for a sensed State not having timely and non-discriminatory access to data concerning its territory.

42. The Committee shared the view of the Sub-Committee that progress to date suggested that satellite remote sensing systems would one day, like weather and communication systems, become operational and, as that occurred, the use of satellite data could be expected to become an integral part of national economies and their planning activities. It therefore endorsed the conclusion that international co-operation was needed as that was the only cost-effective approach for acquiring the benefits of satellite remote sensing for the majority of countries, keeping in mind the special needs of the developing countries.

43. The Committee was pleased to note that in its review of activities in this field (A/AC.105/195, paras. 44-53), the Sub-Committee had noted that several pre-operational space segments were functioning or were being planned and that at least one country had under development an operational remote sensing system for natural resources and environmental observation.

44. In this connexion, the Committee agreed with the view expressed by the Sub-Committee in paragraph 56 of its report that it was already evident that several operational systems with quite different operational roles and different, but hopefully compatible, characteristics might be implemented by various nations or agencies and with its view that there would be an important role for the United Nations to play in encouraging the greatest practicable degree of compatibility of the technical features of such systems as well as complementarity in terms of capabilities and roles. Accordingly, the Committee endorsed the recommendation of the Sub-Committee that the Secretariat should undertake a study

aimed at an assessment of the present situation in the area of remotely-sensed data collected by space platforms and which would look in depth into the questions of co-ordination of activities of States and United Nations agencies as well as standardization and compatibility aspects, as outlined in paragraphs 81 and 82 of the Sub-Committee's report.

45. The Committee further agreed with the Sub-Committee that nations planning pre-operational/experimental remote sensing satellite systems should give close attention to questions of compatibility with other such systems to the greatest extent practicable, as well as to the complementary role of such systems, consistent with the objectives of the experiments to be performed, and that the real accessibility by sensed States to data of their territory would depend, to some extent, on the degree of compatibility of different systems.

46. The Committee noted with gratification that several countries were already using data from the United States LANDSAT system and that the Soviet Union was ready to extend dissemination of available remotely-sensed data to all interested States on the basis of agreements to be reached with countries needing such information. The Committee welcomed these activities which were designed to strengthen international co-operation in this area of peaceful exploration and use of space technology for the benefit of all countries. The Committee continues to believe that substantial benefits are being realized from the use of remote sensing systems and reaffirmed its earlier endorsements and recommendations of the use and regional co-operation in use of systems such as the pre-operational LANDSAT system.

47. The Committee also welcomed the efforts being made by the United Nations and its agencies, in particular UNDRO, UNESCO, FAO, WMO and the World Bank, to utilize and apply satellite remote sensing data in their programmes on behalf of developing countries and agreed with the Sub-Committee on the importance of providing adequate training facilities, including on-site training in all aspects of remote sensing, particularly to developing countries to enable them to derive maximum benefits from this new technology, and called upon Member States to co-operate to the maximum extent possible in those programmes. It further noted with appreciation that several Member States, specialized agencies, and international organizations were co-operating with the United Nations in conducting several education and training programmes relating to remote sensing, as noted in section II of the Sub-Committee's report.

48. In order to further strengthen these programmes, the Committee was pleased to endorse the recommendation of the Sub-Committee (see para. 73 of its report) to strengthen, within available resources, the role of the remote sensing centre in the Food and Agriculture Organization of the United Nations (FAO) in Rome in the area of renewable resources and the establishment of a centre at the United Nations Centre for Natural Resources, Energy and Transport (UN/CNRET) in the area of non-agricultural resources with functions as noted in that paragraph, and in accordance with paragraph 74 of the Sub-Committee's report, the Committee invited the Secretary-General to explore the possibility of continuing, expanding and co-ordinating such programmes with the various United Nations units concerned and with participating countries and to report thereon to the Committee.

49. The Committee welcomed the intention of the Sub-Committee to continue to give detailed consideration to activities relating to remote sensing, and noted that it had discussed several proposals concerning the future work in this area, as reported



in paragraphs 84 to 87, and had in particular agreed to include in its future programme the question of detecting and monitoring pollution of the environment by means of remote sensing from space. In this connexion, the Committee endorsed the recommendation in paragraph 85 of the report of the Sub-Committee that the Secretariat should prepare for the next session of the Sub-Committee a document summarizing the present state of knowledge on this particular space application. The Committee also endorsed the decision of the Scientific and Technical Sub-Committee to include the matter of detecting and monitoring pollution of the environment by means of remote sensing from space in its future programme, and requested all interested States and organizations to submit to the Secretary-General as soon as possible information on their activities in this field and their recommendations for consideration of the subject so that they could be taken into account in the document to be submitted to the Scientific and Technical Sub-Committee at its next session.

50. The Committee shared the view of the Sub-Committee that the Sub-Committee should continue to try to explore problem areas other than those already under discussion where international solutions were warranted or international action might be required, as outlined in paragraph 86 of the report of the Sub-Committee.

51. The Committee shared the view of the Sub-Committee that questions relating to remote sensing require particular attention from the point of view of co-ordination of activities between the Legal Sub-Committee and the Scientific and Technical Sub-Committee. The Committee noted the suggestion that delegations to the Legal Sub-Committee might usefully draw the attention of that Sub-Committee to the appropriate parts of the report of the Scientific and Technical Sub-Committee whenever scientific criteria could facilitate discussion of legal matters.

## 2. United Nations programme on space applications

52. The Committee noted the United Nations programme on space applications as set out in section II of the report of the Sub-Committee and was pleased to note that further progress had continued to be made in the implementation of that programme.

53. In this connexion, the Committee expressed its appreciation to the Expert on Space Applications for the effective manner in which he had implemented the United Nations programme within the limited funds at his disposal.

54. The Committee endorsed the United Nations programme on space applications for 1978 as proposed to the Scientific and Technical Sub-Committee by the Expert on Space Applications. It noted in particular that several delegations had expressed the view that the United Nations space applications programme should be extended as regards both its content and its scope and that it should receive greater financial support.

55. The Committee expressed its appreciation to the Government of the United Kingdom for having acted as host to the United Nations/FAO seminar on the application of remote sensing from natural resources survey, planning and development for the benefit of the developing countries from 22 July to 10 August 1976; to the Government of the Federal Republic of Germany for having acted as host to the United Nations/FAO interregional training seminar on remote sensing applications from 9 to 20 August 1976; and to the Government of Pakistan for having acted as

host to the United Nations training seminar on remote sensing applications in agriculture, forestry, land use and water resources survey from 17 to 28 January 1977.

56. It also expressed its appreciation to the Government of Bolivia for agreeing to act as host to a United Nations training workshop on remote sensing applications for renewable and non-renewable resources in November 1977; to the Government of the Union of Soviet Socialist Republics for its offer to act as host to a training seminar on remote sensing applications at Baku in October 1977; to the Government of India for agreeing to act as host to a joint United Nations/UNESCO panel meeting in India in November 1977 to discuss the experiences of the Satellite Instructional Television Experiment (SITE) carried out by India and for the holding of a United Nations/FAO training seminar on remote sensing applications for the benefit of developing countries in the regions of the Economic Commission for Asia and the Pacific (ESCAP) and the Economic Commission for Western Asia (ECWA) in October and November 1978.

57. Furthermore, the Committee expressed its appreciation to the International Astronautical Federation (IAF) for having organized a United Nations/IAF training workshop on remote sensing applications for the benefit of developing countries in Anaheim, California, from 27 September to 10 October 1976, in conjunction with the twenty-seventh IAF Congress.

58. The Committee also shared the appreciation of the Sub-Committee that an experimental international training course on application of remote sensing technology to the solution of agricultural problems in the semi-arid zones of Africa was organized by the United Nations at FAO headquarters in Rome from 25 October to 12 November 1976, in co-operation with the Government of Italy, FAO and UNESCO. The Committee was equally gratified to note that a second international training course on the application of remote sensing to agricultural crop statistics and census was held at FAO from 25 April to 13 May 1977, also in co-operation with the Government of Italy, FAO and UNESCO. It noted further that a third international training course on remote sensing would be held in 1978, in co-operation with the Government of Italy, FAO and UNESCO.

59. The Committee further shared the appreciation expressed by the Sub-Committee to Member States that had acted as host or contributed to the success of the various seminars and to the specialized agencies, particularly to FAO, UNESCO and to UNDRO as well as to IAF and the European Space Agency for the assistance they had provided in sponsoring or participating in the United Nations seminars and workshops. The Committee also expressed its appreciation to the Governments of Belgium, Brazil, Italy and the United Kingdom for having offered fellowships through the United Nations to developing countries for advanced study and training in areas related to space applications, and to the Government of India for having organized an international training course at TERLS, India, in January and February 1977 and for providing fellowships through the United Nations to the participants from developing countries.

60. The Committee was also grateful to the Government of Sweden for its decision to offer financial assistance of up to \$50,000 for the conduct of an on-site training programme on remote sensing for the benefit of developing countries in Africa in 1978, under the United Nations programme on space application.

### 3. Other matters

61. The Committee shared the satisfaction expressed by the Sub-Committee in paragraph 128 of its report on the work carried out at the Thumba Equatorial Rocket Launching Station of the Vikram Sarabhai Space Centre in India and the CELPA Mar del Plata Rocket Launching Station in Argentina relative to the use of sounding rocket facilities for international co-operation and training in the peaceful scientific exploration of outer space. The Committee, accordingly, recommended that the General Assembly continue to grant sponsorship to these two ranges.

62. The Committee noted with appreciation the reports submitted by Member States on their national and co-operative space programmes during the calendar year 1976 (A/AC.105/190 and Add.1-9).

63. The Committee noted with satisfaction that in accordance with the recommendation made by it a revised version of the review of the activities and resources of the United Nations and its specialized agencies and other competent international bodies relating to the peaceful uses of outer space (A/AC.105/193) had been issued recently with the object of providing, in a form that would make it useful as a reference guide, general conspectus of the current activities, programmes and functions of various international bodies involved in the expanding pattern of co-operative efforts in the peaceful uses of outer space.

64. The Committee also noted with appreciation the participation in its work and that of its sub-committees by representatives of United Nations bodies, the specialized agencies and international organizations, and found the reports they had submitted helpful in enabling the Committee and its subsidiary bodies to fulfil their role as a "focal point" for international co-operation, especially with respect to the practical application of space science and technology in developing countries.

65. In this connexion, the Committee welcomed the report submitted by WMO on its tropical cyclone project in response to the request contained in General Assembly resolution 31/8 of 8 November 1976 that WMO pursue actively implementation of its tropical cyclone project while continuing and intensifying its other related action programmes, including the World Weather Watch (WWW) and, especially, the efforts being undertaken towards obtaining basic meteorological data and discovering ways and means to mitigate the harmful effects of tropical storms and to remove or minimize their destructive potential, and to report thereon to the General Assembly. In particular, the Committee noted the view expressed in paragraphs 27 to 30 of that report that the satellite has revolutionized the initial detection of tropical cyclones and the expected availability of five geostationary satellites by 1978 would mean that all the tropical areas of the world would be under constant surveillance considerably enhancing the ability of the meteorologist to locate and track tropical cyclones over remote ocean areas. It also noted the view that the success of the WMO tropical cyclone project depends upon the continued and increased committal of essential resources to this programme.

66. The Committee also noted the sixteenth report by the International Telecommunication Union on telecommunication and the peaceful uses of outer space during 1976, presented to the current session of the Committee. It noted in particular the information contained therein concerning (a) the decision of ITU members to convene a World Administrative Radio Conference in September 1979 to

review the provision of the Radio Regulations, including the allocations of the radio spectrum for the various services, the international co-ordination procedures for the planning and use of the spectrum and of orbits and relative matters; (b) the Union's proposed Exhibition TELECOM scheduled for September 1979; and (c) the work undertaken by the Union in assisting developing countries by seminars, training programmes and feasibility and planning studies for the effective integration of space telecommunications into their regional, subregional and national networks. The Committee further noted the statement made by the Deputy Director General of the ITU concerning the results of the World Administrative Radio Conference for the planning of the Broadcasting Satellite Service in Frequency Bands 11.7-12.2 GHz in Regions 2 and 3 and 11.7-12.5 GHz in Region 1, which have resulted in new treaty legislation and world agreement in the planning and use of the bands for direct satellite broadcasting, permitting also evolution of terrestrial services for the countries so interested, without prejudice to the long-term interest, of satellite broadcasting.

67. The Committee was gratified with the participation of COSPAR and IAF in the work of the Sub-Committee and for the valuable information they had provided in submitting their reports on scientific and technical developments in the exploration and practical uses of outer space, which were considered useful by the Sub-Committee, and expected that they would submit similar reports in the future emphasizing, whenever possible, areas and problems under discussion in the Committee and its sub-committees.

68. The Committee noted that the Scientific and Technical Sub-Committee had considered the question of co-ordination of activities between the Legal Sub-Committee and the Scientific and Technical Sub-Committee and noted its views as contained in paragraph 121 of the Sub-Committee's report.

69. The Committee also noted that the Sub-Committee had considered the report submitted by the Secretary-General outlining the activities of the various organizations within the United Nations system in the area of practical applications of space technology (A/AC.105/183 and Add.1 and 2). The Committee noted with satisfaction that the Sub-Committee was satisfied with the manner in which the work of the United Nations system is being co-ordinated by the newly-established ACC Sub-Committee on outer space, as stated in that report.

#### 4. Future work of the Sub-Committee

70. The Committee took note of the views of the Scientific and Technical Sub-Committee regarding its future role and work as expressed in paragraphs 115 to 119 of the Sub-Committee's report.

71. In particular, the Committee took note of the observations made by the Sub-Committee in paragraph 118 of its report and endorsed the recommendations of the Sub-Committee that for its fifteenth session priority should be given to the following three items:

(a) Questions relating to remote sensing of the earth by satellites and, in particular, questions relating to the co-ordination on a global basis of remote sensing activities;

(b) Consideration and review of the United Nations programme on space applications;

(c) Questions relating to the convening of a possible United Nations conference on outer space matters.

72. The Committee also decided to request the Scientific and Technical Sub-Committee to examine, at its fifteenth session, the physical nature and technical attributes of the geostationary orbit, with a view to enabling the study of the different aspects of its utilization. The Committee requested, in this regard, that the Secretariat prepare a factual study on the subject, to be considered by the Scientific and Technical Sub-Committee at its fifteenth session.

### C. Possible United Nations conference on outer space

73. The Committee noted with satisfaction that, in response to its request made last year, the Scientific and Technical Sub-Committee had considered in detail the options relating to a possible United Nations conference on outer space.

74. The Committee noted paragraphs 109 to 114 of the report of the Scientific and Technical Sub-Committee, in which the Sub-Committee's consideration of the options relating to the possible United Nations conference on outer space matters is summarized, and the recommendation that the Committee at its current session consider, inter alia, the establishment of a small task force or an ad hoc working group of Member States to consider all the factors involved and any other relevant information and to report to the Scientific and Technical Sub-Committee at its fifteenth session on the specific objectives, organizational aspects and financial implications of the proposed United Nations conference on outer space matters.

75. During the Committee's consideration of this question, some delegations noted that a decision about convening a second United Nations conference on outer space should not be made before the United Nations Conference on Science and Technology for Development had been held. Some delegations also expressed the view that a conference on outer space should not be convened before the World Administrative Radio Conference, which is also to be held in 1979. Several delegations considered that the question of taking a decision about when a conference on outer space should be held should not be inhibited by the fact that meetings in other international fora were scheduled. However, there was general agreement that the objectives of a possible conference on all outer space matters should be carefully studied to establish its likely utility, scope and financial implications.

76. The Committee concluded that a task force of the Scientific and Technical Sub-Committee would be useful and should be established. The Committee further agreed that the membership of the task force would be open to all interested members of the Scientific and Technical Sub-Committee. The Committee also agreed that, as this task force would be responsible to the Sub-Committee, it would be most appropriate if its chairmanship were assumed by the Chairman of the Scientific and Technical Sub-Committee, Professor J. H. Carver.

77. To facilitate the work of the task force, the Committee recommended that the Secretariat should forthwith invite Member States to submit their suggestions and views on a proposed conference, focused upon those aspects of the mandate of the task force set out in paragraph 74 above, to the Outer Space Affairs Division of the Secretariat by 30 November 1977. Those suggestions and views would then be reproduced and made available by the Secretariat to all members of the Sub-Committee before the end of 1977 and subsequently issued as a United Nations document. This document, together with comments of Member States contained in document A/AC.105/142 and Add.1-8, could be considered by the task force, which would meet preferably during the first week of the session of the Sub-Committee in order that a report could be submitted to the Sub-Committee before the conclusion of its session. For that purpose, the Committee recommended that, if necessary, the session of the Sub-Committee could be extended by not more than one week.

### III. SCHEDULE OF WORK OF THE COMMITTEE AND ITS SUBSIDIARY BODIES

78. The Committee considered the recommendation of the Legal Sub-Committee in paragraph 16 of its report concerning the holding of meetings of the Legal Sub-Committee in rotation between Geneva and New York and, after reviewing the annual schedule of meetings, the Committee agreed on the following time-table for 1978 and 1979:

	<u>Time</u>	<u>Location</u>
Scientific and Technical Sub-Committee	6-24 February 1978 <sup>4/</sup>	New York
	5-16 February 1979	New York
Legal Sub-Committee	13 March-7 April 1978	Geneva
	12 March-6 April 1979	New York
Committee on the Peaceful Uses of Outer Space	12-23 June 1978	New York
	11-22 June 1979	New York

### IV. TRIBUTE TO THE FEDERAL GOVERNMENT AND PEOPLE OF AUSTRIA

79. The Committee adopted the following resolution as a tribute to the Federal Government and people of Austria:

#### The United Nations Committee on the Peaceful Uses of Outer Space,

Having held its twentieth anniversary session in Vienna, and having adopted its report to the thirty-second session of the General Assembly,

1. Expresses its deep appreciation to the Federal Government and people of Austria for making possible the holding of the twentieth session of the Committee in Vienna and for their generous hospitality and great contribution to the successful completion of the work of the Committee;

2. Also expresses its deep appreciation to the Governor/Mayor of Vienna as well as the Governor and people of Burgenland for the generous hospitality extended to the Committee during its session in Vienna;

3. Further expresses its gratitude to the Austrian Solar and Space Agency for organizing, in conjunction with the session of the Committee, a series of lectures by distinguished speakers and an exhibition relating to space matters.

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<sup>4/</sup> The third week contemplated might be used only in the event that the session of the Sub-Committee will have to be extended in accordance with para. 77 of this report.

## ANNEX I

### Address by the Federal President of Austria, Mr. Rudolf Kirchschläger, to the twentieth session of the United Nations Committee on the Peaceful Uses of Outer Space

It is with great pleasure that I extend a sincere welcome to the United Nations Committee on the Peaceful Uses of Outer Space at the beginning of its twentieth session in the capital of Austria.

It is a matter of profound satisfaction for my country to have been associated with the progress of this Committee since 1959. As an expression of the close involvement of our country in matters pertaining to international co-operation in outer space, the first United Nations Conference on the Peaceful Uses of Outer Space was held in Vienna in 1968, focusing then primarily on a demonstration of the potential of space science and technology for the benefit of all mankind.

Austria, like almost all other countries, can participate in and derive benefits from space projects only by close international co-operation. My country sees its primary objective in this context in contributing to promote such co-operation between all States whatever their level of technological development. We believe that all countries, and in particular developing countries, could greatly benefit from such co-operation.

As I understand, the major part of your discussions will centre on the utilization of remote sensing satellites data, the principles governing the use of direct broadcast satellites, and the question of convening a second United Nations conference on outer space. Remote sensing of our earth by means of satellites has provided amazing results in a wide variety of fields. These activities have demonstrated in which way space technology can assist in solving world-wide problems, such as surveys of the availability of food and energy resources as well as monitoring the environment, to name a few. The proper use of direct broadcast satellites will have enormous potential not only for international co-operation between States in any particular region but also for tackling selected issues of infrastructure, such as education and training in developing countries.

In this context I should like to point to the outstanding results brought about by the use of the telecommunication satellite employed in the satellite instructional television experiment in India.

Future large space projects, like space stations, or large solar power stations in space can probably only be achieved by world-wide co-operation. To highlight this, the Austrian Solar and Space Agency has organized four evening lectures to be given by leading scientific experts in order to present an outlook on these space activities in the decades ahead.

Since almost 10 years have elapsed since the first United Nations Conference on Outer Space I think it was the right decision by your Committee to start a process of consideration of holding a second space conference at an appropriate time. Such an endeavour might not only be necessary to take stock of the rapidly evolving space sciences and applications, but also to point with vision and imagination the way whereby these extraordinary human achievements can to an even greater extent alleviate human misery, social and economic injustice and promote a climate of genuine understanding between peoples and countries.

Distinguished delegates, it is an enormous challenge and an even greater responsibility which rest on you as the focal point for space matters in the whole United Nations system and therefore I wish the forthcoming deliberations of your Committee every possible success.

I should hope that besides your work you will find opportunities to enjoy some of the many things Vienna is able to offer. As I am informed, the programme arranged around the session will also include a visit to the Donaupark, where the Austrian Government and the city of Vienna are constructing a large international office and conference centre, not only to provide permanent headquarters for IAEA and UNIDO, but also to serve as a future home for other United Nations organizations and units. We are - I feel justly so - proud of this endeavour which is another expression of the dedication of the Austrian people and the Austrian Government to serve the goals and aspirations of the world organization.



## ANNEX II

Statement by Mr. A. N. Shevchenko, Under-Secretary-General for  
Political and Security Council Affairs before the twentieth  
session of the Committee on the Peaceful Uses of Outer Space  
conveying a message from the Secretary-General

At the outset, I have the honour to extend to you, Mr. Chairman, the greetings of the Secretary-General, Mr. Kurt Waldheim, for a successful session of the Committee on the Peaceful Uses of Outer Space and to read to you the following message of the Secretary-General:

It is with great pleasure that I wish to address this message to the twentieth anniversary session of the Committee on the Peaceful Uses of Outer Space. This is also the twentieth anniversary of the most important contribution of this Committee, the adoption of the treaty governing the activities of the States in the exploration and use of outer space.

In two short decades, since the launching of the first Sputnik in 1957, remarkable progress has been made in the conquest of outer space. Cosmonauts and astronauts of both the Soviet Union and the United States have orbited the earth for weeks and walked in space. In the Apollo/Soyuz mission, they have worked together in outer space and have thus set an example for international co-operation in this field. Man has landed on the moon and man-made objects have landed on far away planets and transmitted valuable information to earth.

Applications of space science and technology have helped man to better understand, control and use the environment in which he lives and works. The use of communication, meteorological, navigational and remote sensing satellites has already inaugurated a new era in human existence and it reaffirms our hope that we will be able to use the potential of space research and technology to help solve some of the urgent problems of all nations, particularly the developing countries.

While space science and technology progressed, it is to the credit of this Committee that it has been able to take the leadership as the focal point of international co-operation, in ensuring that these developments will benefit all mankind and at the same time take place in an orderly and regulated manner.

Under the auspices of this Committee and its Legal Sub-Committee, four major international instruments relating to space activities have already been formulated and all of them are now in force with a significant number of States being parties to them. This augurs well for the three other instruments which are now under preparation. I hope that the international instruments relating to direct television broadcasting will be finalized at this session and, thereby, contribute further to the significant body of the law that has been already developed under the auspices of this Committee.

"A comprehensive programme in education and training has been established by this Committee under the United Nations Programme on Space Applications. Several international, regional and inter-regional panel meetings, seminars and workshops relating to all aspects of space applications have already been held in many parts of the world under this programme. Several other programmes, including those designed to disseminate information and to create awareness among policy makers - particularly in developing countries - on the use of space applications, have also been established under the auspices of this Committee.

These are notable achievements, and I have no doubt the Committee will continue its efforts to ensure, at this twentieth session and in the sessions to come, that outer space science and technology can be shared in the widest possible manner among all States."

Before I conclude, on behalf of the United Nations, let me express our gratitude to the Government of Austria for kindly offering the friendly atmosphere of the city of Vienna, well-known for its warm hospitality, which I am certain will contribute to the success of the work of this meeting. Let me recall in this connexion that it was in Vienna that the first United Nations Conference on the Peaceful Uses of Outer Space was held nearly a decade ago with such great success. At this twentieth anniversary session of the Committee, I cannot conclude without referring also to the significant role played by Austria in providing outstanding chairmen who have provided this important Committee with the dynamic leadership it needs. The late Ambassador Matsch, Secretary-General Waldheim, Ambassador Haymerle and now you, Mr. Chairman, have guided the activities of this Committee with leadership and understanding and have contributed in no small measure to the success of the work of this Committee. It is in this spirit that I look forward to a successful session this year.

### ANNEX III

#### Opening statement by the Chairman of the Committee on the Peaceful Uses of Outer Space

The customary privilege of the Chairman to address this Committee at the outset of its work is much increased this year, at this twentieth session, by his pleasant duty to welcome members of the Committee to Vienna.

I am also honoured to greet the presence here, on behalf of the Committee on the Peaceful Uses of Outer Space of the United Nations, of the many distinguished guests who are attending our opening meeting. Let me extend a special welcome to the members of the Federal Government of Austria, members of the Diplomatic Corps and the Heads of the international agencies established in Vienna.

As you are all aware, the interest and commitment of the Government of Austria to the promotion of peaceful co-operation in outer space dates back to the very beginning of the work of the Committee. It was symbolized by the dedication with which my distinguished predecessors, among whom I wish to pay a special tribute to the memory of the late Ambassador Matsch, have served this Committee and its aims. This is another reason to express pleasure that the Assembly has accepted the invitation of the Government of Austria to hold this session in Vienna in this anniversary year of outer space exploration.

Distinguished delegates, because of this occasion, we shall hear many references to the accomplishments achieved during 20 years of research and exploration in outer space. Few will disagree that it is proper and fitting to pay tribute to all those forward looking Governments and those courageous individuals who have taken human activity beyond the narrow boundaries of our planet.

But perhaps only a few will also disagree that we live in a time when it is hardly sufficient to be content with past achievements, no matter how great these achievements may have been. As we face a growing awareness of the finite character of our planet, and the tremendous resources required to produce sufficient food, housing and quality of environment for every man, woman and child, I believe we all have to look to the future rather than the past. We in the United Nations Committee on the Peaceful Uses of Outer Space bear a special responsibility in this respect. We deal with an activity which, while still new to man's experience, nevertheless holds forth a promise to enhance our ability to survive, not only on the planet earth, but in the universe.

The General Assembly of the United Nations looks to our Committee for guidance in the organization of international co-operation for the peaceful uses of outer space. The members of our Organization, through resolutions of the General Assembly, have repeatedly expressed their confidence in our ability to put forth recommendations which are designed to serve the best interests of the international community.

The record of our Committee today includes the drafting and implementation of four international legal instruments governing activities in outer space of which

the basic one, the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, of 1967, is now celebrating its tenth anniversary; its record includes the establishment of a United Nations programme in space applications as well as an increasing volume of international regional scientific and technical co-operation in the peaceful uses of outer space. We can therefore express the hope that the confidence the General Assembly has again and again placed in this Committee has not been betrayed.

Yet, it is precisely because of the confidence placed in our Committee by the General Assembly that we have an added obligation. We have learned, through experience, how rapid the pace of space technology can be. Theoretical concepts become experimental realities and turn into operational programmes with extraordinary speed. If we look only at one facet of space research, the earth applications area, there is an impressive rate of progress in the operation of meteorological satellites, now an integral part of the World Weather Watch; there is progress in the communications satellite system of INTELSAT and INTERSPUTNIK; and there is the spectacular success of the remote sensing satellites, now both experimental and operational; and the navigation satellite of INMARSAT.

In order to understand the growing volume of this type of activity it is interesting to note that over the past 20 years nearly 10,000 space objects of varying type and volume have travelled through outer space; while most of these objects have decayed and many more are only debris, there is now an average of nearly 1,000 objects actively engaged in orbiting the earth.

We have also learnt that it is not necessary to be a master of all the scientific and technical details of a space programme in order to understand the primary objectives of such a programme and to recognize the potential political problems involved.

It is instructive, in this context, to review the discussions at the United Nations Conference on the Peaceful Uses of Outer Space held here in Vienna in 1968. In several areas of space applications, which at that time were still theoretical concepts, the discussions showed clearly that the participants had already anticipated the potential benefits as well as the potential problems the international community would face when those satellites were launched into orbit.

I emphasize this point to illustrate the important recognition that we do not have to await the technological realization of a space programme before embarking upon substantive discussion. In these times of complex international problems, the tendency is to concentrate on areas which require immediate solutions and to allow future problems to wait in the wings until their immediacy places them in the forefront of our stage. But as we have seen, in the area of space research and exploration, decisions can be taken out of the hands of the international community, or decisions can be forced upon the international community by the fait accompli of a technological advancement.

Furthermore, as a leading European newspaper wrote the other day, over recent years, a fundamental change has occurred in space research which has profoundly altered the character of man's exploration of the immediate environment beyond the atmosphere surrounding this planet. This can be summarized as a change in public mood towards space activities. The euphoria engendered by the early years of manned earth orbital and moon landing, moon missions and other "space

spectaculars" has given way to a marked desire to see the massive technological achievements generated by the early space flights turned to more scientifically, economically, sociologically and even politically rewarding spheres. While some proportion of the budgets provided by Governments for space research can still be spent on the acquisition of new knowledge about the solar system of which earth is part, and to a more limited extent about the universe itself, the emphasis is now more on not only getting value for money but also in making the still comparatively new science of space technology work for its living.

As a result, the emphasis has shifted on to unmanned earth-orbiting satellites of a wide variety of uses and in increasing numbers, with in turn considerable emphasis being placed upon the development of communications, but with other practical uses also much to the fore - such as the monitoring of the earth's mineral and other resources, meteorological research and navigation.

It has been 20 years since the first Sputnik circled the earth and electrified the world. Since that relatively small man-made object went into outer space, the scientific and technical accomplishments that have occurred with amazing regularity each year in the exploration of outer space have been without precedence in the history of mankind. Dramatic proof of this lies in the current blasé acceptance by the public at large of each new space venture. But the lesson we, members of the Committee on the Peaceful Uses of Outer Space, should learn from this experience is that the theoretical concepts being put forward for future space activities by experienced space scientists and technicians, no matter how utopian it may appear to us as laymen, may very well result in concrete programmes. Such programmes could become of vital importance to all of us. It is for this reason that they deserve serious consideration by this Committee so recommendations for political, social and economic guidance can be presented to the world community and decisions can be made to ensure that equal benefits will accrue to all countries of the world.

Hardly a month goes by without the record of one or more meetings, in a national or international forum wherein individual experts discuss the future peaceful uses of outer space. As Chairman of this Committee, I have had the privilege of being invited to participate in some of these fora and I can attest to the serious attention being given to these new concepts by dedicated and imaginative space scientists and technicians. As much as I applaud the value of such meetings in fostering the exchange of information among practitioners from many countries, I am always aware that the exchange of ideas and recommendations which flow therefrom are in a non-governmental context and have no binding force upon the decisions of Governments. It is only in our Committee, with the mandate given us to act as the focal point for international co-operation in the peaceful uses of outer space, where Governments can make recommendations, which, if accepted by the General Assembly, will be implemented on an international scale. The question before us now, as we begin our session and look to the next 20 years of outer space, is whether we, too, can stretch our imagination and begin serious consideration of future space programmes.

The discussion of some of the future uses of outer space for man in the sober atmosphere of this Committee may even seem a little more utopian than in other contexts: but Utopia is never far from any activity in outer space and we should therefore show the courage and vision to travel, together, in new directions.

These days we can hardly avoid the pressing problem of securing sufficient

energy for the world's needs without endangering the environmental quality of our planet. Is it not then the responsibility of this Committee to delve as deeply as necessary to ascertain whether or not the use of outer space for the transmission of solar energy to earth is a feasible project, and if it is, what action should be recommended to the world community?

In a short time, economical space transportation will be available to the world with the advent of the space shuttle. Should we not be studying what the ramifications of this will be and begin planning for the most beneficial international use of this new capability?

Being aware of how advantageous the geostationary orbit is for so many space applications, is it not our responsibility now, before it is too late, to give serious consideration to the development of an international plan for the most effective and equal use of the geostationary orbit?

A concerted national, and perhaps international, effort is in progress to find radio signals from extraterrestrial civilizations within the next few years. It will be the outcome of nearly 20 years of smaller searches at various radio observations and about a decade of preliminary planning for a dedicated facility. In view of the tremendous impact any contact with an extraterrestrial civilization would have on our planet, can this Committee continue to ignore this possible development? Should we not, at the very minimum, be giving preliminary consideration to this subject?

More concretely, the question of manufacturing in an outer space environment is an area of activity that has international implications and, much further in the future but also being given consideration by scientists, the concept of space colonies is of definite international concern.

For the more immediate future we might consider the implications of space stations and, as another step, the establishment of laboratories on the moon, the natural satellite of our planet.

Distinguished delegates, I do not cite these examples as urgent priorities, but I believe that, as a matter of principle, our Committee must be intelligently informed about the future of space activities so that we can, with due deliberations, determine what policy guidance we wish to recommend to the General Assembly. Without unduly burdening our subsidiary bodies, we can request an evaluation, on scientific and technical grounds, so that we, the parent Committee, can decide whether there is need for political action on our part.

The main basis for our discussions here will again be the reports of our Legal and Scientific and Technical Sub-Committees, which have been distributed and are before you, and I take this opportunity to extend the thanks and appreciation of the Committee to the Chairmen of the Sub-Committees, Ambassador Wyzner of Poland and Professor Carver of Australia, for the outstanding work they have again performed during the past year.

I shall, at a later stage in our deliberations, when we discuss the organization of our work, go into greater detail of the matters before us. However, at this time, I should like to note that our Scientific and Technical Sub-Committee has, in its consideration of remote sensing of the earth by satellites and the co-ordinating role to be played by the United Nations, raised

several questions on outer space matters, the Sub-Committee has requested a specific action on the part of our Committee. And speaking of action that might be taken at this twentieth session, I wish to draw your attention in particular to the hope expressed by our Legal Sub-Committee that the task entrusted to it by the General Assembly for the elaboration of principles governing the use by States of artificial earth satellites for direct television broadcasting would be fulfilled at this session of our Committee.

If, in the spirit of co-operation, a spirit which has been the guiding principle of the work of this Committee and its subsidiary bodies, we can take the final step in a task which has been before us for so many years, it will indeed be a fitting tribute to the twentieth anniversary of man's step into outer space.

Let us proceed on a path which was at first only dreamed about by creative spirits like Jules Verne or Konstantin Tsiolkovsky, the authors who first took us to the moon and describe space habitats with features as contemporary as the use of solar energy and space greenhouses - with a closed ecological system.

On this path we now find the traces of Yuri Gagarin and John Glenn, of Valentina Tereshkova and Neil Armstrong.

But let us also be sober and heed the advice of a wise writer, Arthur C. Clarke, in whose view people who attempt to look to the future tend to be optimistic in the short run and to be pessimistic in the long run. Too optimistic because they usually underestimate the forces of inertia which tend to delay the acceptance of new ideas. Too pessimistic because developments tend to follow an exponential curve while prediction is commonly based on linear extrapolation.

To paraphrase the language of our technical counterparts, the countdown has begun and all systems must be carefully checked and examined if the United Nations Committee on the Peaceful Uses of Outer Space is to truly fulfil its responsibilities as outer space research and exploration is launched into the next 20 years, onto the year 2000.

ANNEX IV

Text agreed by the Working Party on 24 June 1977 a/

Draft preamble

The General Assembly,

- (1) In view of the benefits of international direct television broadcasting by means of artificial earth satellites for individuals, peoples, countries, and all mankind,
- (2) Desiring to safeguard the legitimate rights and interests of all States and to encourage orderly development on an equitable basis of this new and promising means of television broadcasting,
- (3) Recognizing the unique characteristics of such satellite broadcasting not encountered in other forms of broadcasting which necessitate besides relevant technical regulations also legal principles solely applicable in this field,
- (4) Considering that States, as well as international governmental and non-governmental organizations, including broadcasting associations, should base their activities in this field upon and encourage international co-operation,
- (5) Solemnly declares that in international direct television broadcasting by means of artificial earth satellites, States should be guided by the following principles:

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The following paragraphs are reproduced from appendix of A/AC.105/196, annex II, page 4:

/1a. Recognizing that international direct broadcasting by means of artificial earth satellites should be based on strict respect for the sovereign rights of States and non-interference in their internal affairs; /

.....

/1b. Considering that direct television broadcasting by means of satellites should take place under conditions in which this new form of space technology will serve the lofty goals of peace and friendship among peoples; /

.....

/1c. Recognizing the importance of free dissemination of information and ideas and a broader exchange of views between all countries of the world; /

.....

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a/ Previously issued under the symbol A/AC.105/XX/WPDBS/1.



/1d. Recognizing the importance of the right of everyone to freedom of expression, including the right to seek, receive and impart information and ideas regardless of frontiers, as enshrined in instruments of the United Nations relating to universal human rights.

ANNEX V

Consultation and agreements between States: texts  
formulated by the Working Party on 27 June 1977

(1) /A direct television broadcasting service by means of artificial earth satellites specifically directed at a foreign State, which shall be established only when it is not inconsistent with the provisions of the relevant instruments of the International Telecommunication Union, shall be based on appropriate agreements and/or arrangements between the broadcasting and receiving States or the broadcasting entities duly authorized by the respective States, in order to facilitate the freer and wider dissemination of information of all kinds and to encourage co-operation in the field of information and the exchange of information with other countries./

(2) /For that purpose a State which proposes to establish or authorize the establishment of a direct television broadcasting service by means of artificial earth satellites specifically directed at a foreign State shall without delay notify that State of such intention and shall enter into consultations with that State if the latter so requests./ a/

(3) (a) /No such agreements and/or arrangements shall be required with respect to the over-spill of the radiation of the satellite signal within the limits established under the relevant instruments of the International Telecommunication Union./

(b) /No such agreements and/or arrangements or consultations shall be required with respect to the over-spill of the radiation of the satellite signal within the limits established under the relevant instruments of the International Telecommunication Union./

(c) /No such agreements and/or arrangements shall be required in those cases in which the coverage of the territory of a State by direct television broadcast intended by another State for its own population is due to the over-spill of the signal beyond the planned surface area if such an over-spill is permitted under relevant instruments of the International Telecommunication Union./

(d) /No such agreements and/or arrangements shall be required with respect to services not specifically directed at a foreign State which result in an over-spill of the radiation of the satellite signal within the limits established under the relevant instruments of the International Telecommunication Union./

(e) /Delete para. 3./

(f) /This principle shall not apply with respect to the over-spill of the radiation of the satellite signal within the limits established under the relevant instruments of the International Telecommunication Union./

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a/ Some delegations considered that, owing to the wording of the principle on "consultation and agreements between States", the principle on "Duty and right to consult" should be reconsidered in order to avoid inconsistencies and redundancies.

## ANNEX VI

### Considerations on the legal status of geostationary orbits: working paper submitted by the Union of Soviet Socialist Republics a/

- (1) Geostationary orbit is inseparable from outer space and all relevant provisions of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies are applicable to it. Under that Treaty, geostationary orbit, like outer space as a whole, is not subject to national appropriation by any means whatsoever.
- (2) The placing of satellites in geostationary orbit by States creates no right of ownership over the respective orbital positions of the satellites or over segments of the orbit.
- (3) All States enjoy an equal right to the utilization of geostationary orbit. The utilization of geostationary orbit by States must not be detrimental to the interests of other States.
- (4) States shall co-operate on questions of the placing of communications satellites in geostationary orbit with due regard to the recommendations and decisions of the International Telecommunication Union concerning the utilization of the radio-frequency spectrum allocated for the various types of space communications.

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a/ Previously issued under the symbol A/AC.105/L.94.

ANNEX VII

Texts formulated on Draft Principles on Direct Television Broadcasts a/

The General Assembly,

- (1) In view of the benefits of international direct television broadcasting by means of artificial earth satellites for individuals, peoples, countries, and all mankind,
- (2) Desiring to safeguard the legitimate rights and interests of all States and to encourage orderly development on an equitable basis of this new and promising means of television broadcasting,
- (3) Recognizing the unique characteristics of such satellite broadcasting not encountered in other forms of broadcasting which necessitate besides relevant technical regulations also legal principles solely applicable in this field,
- (4) Considering that States, as well as international governmental and non-governmental organizations, including broadcasting associations, should base their activities in this field upon and encourage international co-operation,
- (5) Solely declares that in international direct television broadcasting by means of artificial earth satellites, States should be guided by the following principles:

/1a. Recognizing that international direct broadcasting by means of artificial earth satellites should be based on strict respect for the sovereign rights of States and non-interference in their internal affairs;/

.....

/1b. Considering that direct television broadcasting by means of satellites should take place under conditions in which this new form of space technology will serve the lofty goals of peace and friendship among peoples;/

.....

/1c. Recognizing the importance of free dissemination of information and ideas and a broader exchange of views between all countries of the world;/

.....

---

a/ The texts reproduced here contain the principles agreed to by the Working Group II of the Legal Sub-Committee at the fifteenth session of the Sub-Committee in 1976 (A/AC.105/171, annex II), as well as the texts formulated by the Working Group II of the Legal Sub-Committee at its sixteenth session in 1977 (A/AC.105/196, annex II) and by the Working Party of the Committee on the Peaceful Uses of Outer Space at its twentieth session in 1977.

/Id. Recognizing the importance of the right of everyone to freedom of expression, including the right to seek, receive and impart information and ideas regardless of frontiers, as enshrined in instruments of the United Nations relating to universal human rights./

#### Purposes and objectives

States declare b/ that activities in the field of international direct television broadcasting by means of artificial earth satellites should be carried out in a manner compatible with the development of mutual understanding and the strengthening of friendly relations and co-operation among all States and peoples in the interest of maintaining international peace and security. Such activities should, inter alia, promote the dissemination and mutual exchange of information and knowledge in cultural and scientific fields, assist in educational, social and economic development, particularly in the developing countries, enhance the quality of life of all peoples and provide beneficial recreation.

#### Applicability of international law

Activities in the field of direct television broadcasting by means of artificial earth satellites should be conducted in accordance with international law, including the Charter of the United Nations, the Treaty on Principles Governing the activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies of 27 January 1967, the relevant provisions of the International Telecommunication Convention and its Radio Regulations and of international instruments relating to friendly relations and co-operation among States and to human rights.

#### Rights and benefits

Every State has an equal right to conduct activities in the field of direct television broadcasting by means of artificial earth satellites and to authorize such activities by persons and entities under its jurisdiction. All States and peoples are entitled to and should enjoy the benefits from such activities. Access to the technology in this field should be available to all States without discrimination on terms mutually agreed by all concerned.

#### International co-operation

Activities in the field of direct television broadcasting by means of artificial earth satellites should be based upon and encourage international co-operation. Such co-operation should be the subject of appropriate arrangements. c/

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b/ Subject to review in the context of the final form of this document.

c/ Subject to review of the second sentence in the light of the discussion on consent and participation.

### State responsibility

States should bear international responsibility for activities in the field of direct television broadcasting by means of artificial earth satellites carried out by them or under their jurisdiction and for the conformity of any such activities with the principles set forth in this document.

When direct television broadcasting by means of artificial earth satellites is carried out by an international intergovernmental organization, responsibility for compliance with these principles should be borne both by such organization and by States participating in it.

### Duty and right to consult

Any State requested to do so by another State should promptly enter into consultations with the requesting State concerning any matter arising from those activities in the field of international direct television broadcasting by satellites that are likely to affect the requesting State, and such consultations should be conducted with due regard to the other principles of this document.

### Peaceful settlement of disputes

Any dispute that may arise from activities in the field of direct television broadcasting by means of artificial earth satellites should be resolved by prompt consultations among the parties to the dispute. Where a mutually acceptable resolution cannot be achieved by such consultations, it should be sought through other established procedures for the peaceful settlement of disputes.

### Copyright and neighbouring rights

Without prejudice to the relevant provisions of international law States should co-operate on a bilateral and multilateral basis for protection of copyright and neighbouring rights by means of appropriate agreements between the interested States. In such co-operation they should give special consideration to the interests of developing countries in the use of direct television broadcasting for the purpose of accelerating their national development.

### Notification to the United Nations

In order to promote international co-operation in the peaceful exploration and use of outer space, States conducting or authorizing activities in the field of direct television broadcasting by satellites should inform the Secretary-General of the United Nations to the greatest extent possible of the nature of such activities. On receiving this information, the Secretary-General of the United Nations should disseminate it immediately and effectively to the relevant United Nations specialized agencies, as well as to the public and the international scientific community.

## Consultation and agreements between States

1. /A direct television broadcasting service by means of artificial earth satellites specifically directed at a foreign State, which shall be established only when it is not inconsistent with the provisions of the relevant instruments of the International Telecommunication Union, shall be based on appropriate agreements and/or arrangements between the broadcasting and receiving States or the broadcasting entities duly authorized by the respective States, in order to facilitate the freer and wider dissemination of information of all kinds and to encourage co-operation in the field of information and the exchange of information with other countries./

2. /For that purpose a State which proposes to establish or authorize the establishment of a direct television broadcasting service by means of artificial earth satellites specifically directed at a foreign State shall without delay notify that State of such intention and shall enter into consultations with that State if the latter so requests./ d/

3. /a) No such agreements and/or arrangements shall be required with respect to the over-spill of the radiation of the satellite signal within the limits established under the relevant instruments of the International Telecommunication Union./

/b) No such agreements and/or arrangements or consultations shall be required with respect to the over-spill of the radiation of the satellite signal within the limits established under the relevant instruments of the International Telecommunication Union./

/c) No such agreements and/or arrangements shall be required in those cases in which the coverage of the territory of a State by direct television broadcast intended by another State for its own population is due to the over-spill of the signal beyond the planned service area if such an over-spill is permitted under relevant instruments of the International Telecommunication Union./

/d) No such agreements and/or arrangements shall be required with respect to services not specifically directed at a foreign State which result in an over-spill of the radiation of the satellite signal within the limits established under the relevant instruments of the International Telecommunication Union./

/e) Delete para. 3./

/f) This principle shall not apply with respect to the over-spill of the radiation of the satellite signal within the limits established under the relevant instruments of the International Telecommunication Union./

## Programme content

/States or their broadcasting entities which participate in direct television broadcasting by satellite with other States should co-operate with one another in respect of programming, programme content, production and interchange of programmes./

d/ Some delegations considered that, owing to the wording of the principle on "consultation and agreements between States", the principle on "duty and right to consult" should be reconsidered in order to avoid inconsistencies and redundancies.

/The broadcasting of commercial advertising, direct or indirect to countries other than the country of origin, should be on the basis of appropriate agreements between the countries concerned./

/Notwithstanding the foregoing, States undertaking activities in direct television broadcasting by satellites should in all cases exclude from the television programmes any material which is detrimental to the maintenance of international peace and security, which publicizes ideas of war, militarism, national and racial hatred and enmity between peoples, which is aimed at interfering in the domestic affairs of other States or which undermines the foundations of the local civilization, culture, way of life, traditions or language./

#### Unlawful/inadmissible broadcasts

/States shall regard as unlawful and as giving rise to the international liability of States direct television broadcasts specifically aimed at a foreign State but carried out without the express consent of the latter, containing material which according to these principles should be excluded from programmes, or received as a result of unintentional radiation if the broadcasting State has refused to hold appropriate consultations with the State in which the broadcasts are received./

/In case of the transmission to any State of television broadcasts which are unlawful, that State may take in respect of such broadcasts measures which are recognized as legal under international law./

/States agree to give every assistance in stopping unlawful direct television broadcasting by satellite./

/Any broadcasts that a State does not wish to be made in its territory or among its population and in respect of which it has made known such decision to the broadcasting State are inadmissible./

/Every transmitter, State, international organization or authorized agency shall refrain from making such broadcasts or shall immediately discontinue such broadcasts if it has begun to transmit them./



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