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Chairman: Mr. Ismail FAHMY
(United Arab Republic).

AGENDA ITEM 32

International co-operation in the peaceful uses of outer space: report of the Committee on the Peaceful Uses of Outer Space (continued)

GENERAL DEBATE (continued)

1. Mr. FEDORENKO (Union of Soviet Socialist Republics) (translated from Russian): It is with a feeling of great joy and satisfaction that the Soviet delegation wishes to draw to the Committee's attention a *communiqué* from the Tass agency reading as follows:

"Tass Communication

"A new outstanding victory of Soviet science and technology on the eve of the 50th anniversary of the October Socialist Revolution

"Soviet automatic station 'Venus 4' has entered the atmosphere of the planet Venus and landed on its surface

"The Soviet automatic station 'Venus 4', having covered a distance of some 350 million kilometres, reached the planet Venus on 18 October 1967.

"The four-month flight of the station yielded many new data on the physical properties of outer space.

"During the approach to Venus no noticeable magnetic field or radiation belts around the planet were recorded by the station. A weak hydrogen corona was detected.

"Today, 18 October 1967, at 7 hours 34 minutes Moscow time, the automatic station 'Venus 4' entered the atmosphere of Venus at escape velocity and the landing apparatus decelerated its speed through an aerodynamic braking in the planet's atmosphere, a special-purpose parachute system went into operation and the apparatus continued its smooth descent in the atmosphere of Venus.

"The scientific instruments of the descending apparatus were continuously and steadily taking measurements of the parameters of the atmosphere and transmitting the data to earth as the laboratory covered a distance of twenty-five kilometres in one and a half hours. The

apparatus landed on the planet's surface and delivered the second pennant bearing the national emblem of the Soviet Union.

"The apparatus measured the pressure, density, temperature and chemical composition of the atmosphere of Venus.

"In the time during which scientific observations were made, the temperature of the atmosphere changed from 40 to 280 degrees centigrade, and the atmospheric pressure from one to about fifteen atmospheres. The measurements showed that the atmosphere of Venus consists almost entirely of carbon dioxide, and the oxygen and water vapour account for about 1.5 per cent. No noticeable traces of nitrogen were found.

"The data of the scientific observations are being processed and will be published.

"Thus the Soviet automatic station 'Venus 4', for the first time in history, has made a slow descent and soft landing on the surface of the planet and sent back extremely valuable information about it.

"The scientific observations carried out by the Soviet automatic interplanetary station 'Venus 4' mark a new outstanding victory of Soviet science and technology, a most important stage in the exploration of planets of the solar system."

2. The CHAIRMAN: Before I call on the first speaker on my list, I should like to offer my congratulations, and I am sure those of the Committee as a whole, to the delegation of the Soviet Union on the most recent achievement of the Soviet space programme.

3. Yesterday's landing on Venus is a further landmark—or "space-mark"—in man's exploration of outer space and a major contribution to our knowledge of the planets and of the universe in which we live. It also marks, in a most dramatic way, the progress that has been made since the space age was inaugurated by the first Sputnik only ten years ago. I hope that the representative of the Soviet Union will convey my congratulations to the scientists, engineers and others who have together made that feat possible.

4. Mr. SHEVCHENKO (Ukrainian Soviet Socialist Republic) (translated from Russian): The entry of man into space and the planned exploration of outer space undoubtedly represent, side by side with the discovery of atomic energy, one of the greatest achievements of our century. Step by step mankind is uncovering the secrets of the universe, and the day is not far removed when man will blaze trails to other planets.

5. Looking back at the first stages of man's exploration of space, it can be confidently said that most of the main

achievements marking new advances in the development of outer space technology, have been the work of the Soviet Union. A few days ago, world public opinion celebrated the tenth anniversary of the launching of the first artificial earth satellite which opened the era of space exploration by mankind. After the first satellite came the first automatic station for lunar exploration, the first inter-planetary flight, the first manned flight, the first walk in space by man, and, finally, the new and happy event which we learned of yesterday. I am very glad, after the statement of the representative of the Soviet Union, Mr. Fedorenko, to have the honour to say that the Soviet Union—of which my country, the Ukrainian Soviet Socialist Republic, is a part—has for the first time achieved a soft landing on Venus. That marvellous piece of machinery, the work of Soviet people, is successfully carrying out its task and sending back scientific information, revealing the secrets of the universe in the interest of all peoples on earth.

6. These first glorious milestones of the space era have been placed on the road of mankind by the Soviet Union.

7. Together with other peoples of the Soviet Union my peoples—the Ukrainian people, Ukrainian scientists, engineers and specialists—are also making an important contribution to space exploration. The whole world knows the name of the Soviet astronaut Pavel Popovich, a great son of the Ukrainian people, who, together with Andrian Nikolaev, was the first to engage in a group-manned flight in space lasting many days. We are proud that the Ukrainian people have given to mankind a remarkable scientist, the builder of the first spacecraft, Academician Sergei Pavlovich Korolev.

8. The Academy of Sciences of the Ukrainian SSR, the universities and institutes of Kiev, Kharkov, Lvov and other Ukrainian cities make their contribution to the solution of big and small problems connected with the peaceful uses of outer space. Particularly important work is being done in the field of planetary astronomy, cosmogony, heliophysics, solar activity, meteor showers and also the study of processes occurring on the moon and Mars and other planets of our solar system. Through powerful radio-telescopes, Ukrainian scientists study the furthestmost corners of the galaxy and metagalaxy. They have had remarkable successes in the development of space medicine, space biology and in other fields of space science. The results of their scientific research are well known throughout the world.

9. The satellites, with their various tasks to perform, launched from Soviet space launching pads and travelling through space, are the result of the work and skill of all the peoples of our multi-national country.

10. The successes achieved by the Soviet people in space are a consequence of their great successes on earth. The foundation for the launching pad from which today's spaceships are launched with the emblem of the Soviet Union was laid fifty years ago. The victory of the October Revolution gave wings to the creative mind of the people, opened up tremendous possibilities for constructive work and made it possible to produce and train scientists and engineers of whom the whole of mankind is proud today.

11. Only ten years ago there were but two States, the Soviet Union and the United States, that were conquering space, but today a great contribution to this common human task is being made also by the scientists of France, Britain, Italy, Japan and other States. We sincerely congratulate all these countries on the remarkable achievements made by their scientists and wish them further success in learning the secrets of the universe. It is an indisputable fact that the work of the scientists of various countries to speed up space exploration for peaceful uses are having a propitious influence on our whole civilization and helping to strengthen friendship and mutual understanding between the peoples of our planet.

12. With the constantly increasing activities of States in space exploration the need for closer and more general international co-operation is becoming particularly acute, as is the need to find solutions for legal problems arising out of the entry of man into a new sphere of activity, outer space. The first step in this direction was already made a few days ago when the Treaty on the Principles Governing the Activities of States Concerning the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, came into operation [*resolution 2222 (XXI)*].

13. The Treaty was the result of the joint effort of the members of the Committee on the Peaceful Uses of Outer Space and of many States Members of the United Nations and more particularly the result of the efforts of the Soviet Union and other peace-loving States. We express our deep conviction that this Treaty, which has laid a firm legal foundation for the activities of States in the peaceful uses of outer space, will contribute to the use of space in the interests of the whole of mankind and will be an important step towards the development of co-operation and mutual understanding between States and peoples.

14. The conclusion of this Treaty should serve as an inspiring example for the solution of other legal problems related to the conquest of space. In particular, it is most important that an agreement should be signed as soon as possible on the rescue of astronauts in case of accident or of a forced landing. It is also necessary to settle the problems to work out an agreement on liability for damages caused by the launching of space devices, and to settle other problems in connexion with the establishment of appropriate laws in outer space so that they can be applied in the interests of all the peoples of our planet.

15. It should also be borne in mind that intensive use of outer space has led to the further and accelerated development of means of mass communication—communication satellites, meteorological and navigational satellites and other artificial celestial bodies.

16. Having carefully studied these documents and other material relating to the activities of the Committee on Outer Space and its Sub-Committees, we have noted the report presented to the Scientific and Legal Sub-Committee of the World Meteorological Organization [*A/AC.105/L.38*] which contains a plan for the organization of a world weather watch for the period 1968-1971. The practical use of this plan for the whole of mankind is obvious and does not require any lengthy comments.

17. Speaking of co-operation between the scientists of various countries for the practical application of space technology, we should mention another example of international co-operation carried out on the initiative of the Indian Government for more effective use of communication satellites. The results of these experiments are set out in the report submitted by the Government of India: "Satellite communications: an Indian study" [A/AC.105/36].

18. Concluding our brief remarks on the report of the Committee on the Peaceful Uses of Outer Space, I should like to draw the attention of members of this Committee to the fact that in 1968 the first United Nations conference on the peaceful uses of outer space will be held. In this connexion we would like to express the hope that this conference will be successful and will further strengthen international co-operation on space exploration in the interest of all the peoples of the world.

19. The study of outer space is a matter which concerns the whole of our planet and the peoples of the world must unite to ensure that the conquest of space is achieved in the most effective way and only for peaceful purposes.

20. Mrs. GOPI DAS (India): At the outset my delegation would like to congratulate the delegation of the Soviet Union on the tremendous success scored by Soviet scientists in achieving the soft landing of Venus 4 on the surface of Venus. This remarkable achievement is another significant addition to the many other successes gained by Soviet scientists in the field of outer space. The data sent back to earth by Venus 4 adds a new dimension to man's knowledge of the solar system. We should also like to congratulate the United States delegation on the achievement of American scientists in sending Mariner 5 close to Venus. We will be watching the success of the mission of Mariner 5 with great interest.

21. The report of the Committee on the Peaceful Uses of Outer Space [A/6804] submitted to the General Assembly in accordance with resolution 2223 (XXI) which we are now considering gives us an account of the work done by the Legal and Scientific and Technical Sub-Committees as well as the Working Group on a Navigation Services Satellite System since the twenty-first session of the General Assembly.

22. The Government of India presented to the Scientific and Technical Sub-Committee a report entitled "Satellite Communications: An Indian Study". The Sub-Committee recorded its appreciation of the report. The Sub-Committee also agreed that the results of the Government of India's experiment as well as the planned UNESCO pilot programme which may follow could be of great importance to many States. The Sub-Committee invited the Government of India to continue to inform the Sub-Committee on this matter as it progressed. As stated earlier by the Indian delegation in the Committee on the Peaceful Uses of Outer Space, the Government of India will be happy to do so.

23. The Indian delegation also informed the Scientific and Technical Sub-Committee on the progress made at the Experimental Satellite Communications Earth Station at Ahmedabad, the station which became operational in

August 1967 and, as was reported by the Indian delegation in the Committee on the Peaceful Uses of Outer Space, was participating in an international programme and had succeeded in tracking ATS-2 Application Technology Satellites. The station performed further television tests for both reception and transmission in collaboration with Japan on 8 September 1967.

24. The Government of India has arranged four-month courses commencing in November 1967 and in June 1968 in satellite communications, including experimental participation in laboratory tests and tests involving ATS satellites. In response to our invitation a number of trainees are expected to join these courses. At our request the International Telecommunication Union (ITU) has made available the services of Mr. Horley and Mr. Erickson to conduct training programmes in satellite communications. Another ITU expert is expected to join shortly.

25. The Government of India has set up a joint study group with the National Aeronautics and Space Administration of the United States (NASA), and it is expected that a NASA team will go to India in early November 1967. During its stay in India, it will visit, among other projects and places, the Delhi project and the Experimental Satellite Communications Earth Station at Ahmedabad. We welcome the collaboration that happily exists between ourselves and NASA and are looking forward to a greater degree of co-operation to our mutual advantage.

26. The Scientific and Technical Sub-Committee has noted with appreciation the report of the Advisory Panel on the Thumba Equatorial Rocket Launching Station (TERLS) and has recommended that the United Nations continue to grant sponsorship to TERLS [*ibid.*, annex II]. In this connexion my delegation would like to express its appreciation of the remarks made by Dr. Martyn, Chairman of the Scientific and Technical Sub-Committee in the Committee on the Peaceful Uses of Outer Space [49th meeting], giving the scientific reasons for granting international sponsorship by the United Nations to TERLS. Dr. Martyn brought out the importance and uniqueness of TERLS as a rocket-launching facility, especially for the investigation of equatorial electrojet which affects radio communication and presents very interesting problems in the study of aeronomy. The scientific importance of TERLS is being increasingly realized by many scientists, and we have received new proposals for scientific investigation from the scientists of the United States and the Federal Republic of Germany. Indian scientists have also made fresh proposals for further investigation of equatorial electrojet in collaboration with French scientists who would like to make simultaneous measurements of electric fields in this region. The radio frequency mass spectrometer experiments to be conducted in collaboration with USSR scientists will be undertaken at the end of this year. I need hardly emphasize that international co-operation in the field of space research with sounding rockets is being very actively pursued at TERLS. India is planning the formal dedication of TERLS to the United Nations in early 1968. It is also planning at that time to organize a training programme in the various aspects of experimentation in space research with sounding rockets with the assistance of experts from collaborating countries. Meteorological programmes with sounding rockets will be resumed in early

1968 in collaboration with the United States and the USSR.

27. My delegation would like to take this opportunity to inform the Committee that India is setting up a space science and technology centre at Veli Hill, near the site of TERLS. The space science and technology centre, which will be primarily dedicated to problems of space technology, is intended to provide facilities to scientists in support of this programme. The centre will also provide training in various aspects of space experimentation with sounding rockets.

28. It will be recalled that the General Assembly by its resolution 2223 (XXI) had requested the Committee on Outer Space to continue the preparation and consideration of suggestions for programmes of education and training of specialists in the peaceful uses of outer space to assist the developing countries. We note that the Committee on the Peaceful Uses of Outer Space has not been able to achieve enough in this regard. Also by resolution 2223 (XXI) the General Assembly had suggested that the Committee on the Peaceful Uses of Outer Space examine means to increase its usefulness as a centre of information for Member States, particularly the developing countries and those with small space programmes. It is the view of my delegation that the Secretary-General may be requested to study these two matters with the help of consultants, if necessary, and to make a report on them to the twenty-third session of the General Assembly. Accordingly we would suggest the following paragraph to be included in the resolution on this subject:

“Requests the Secretary-General, with the help of consultants, to prepare a report on the programmes of education and training of specialists in the peaceful uses of outer space to assist the developing countries, and on the means to increase the usefulness of the Committee on the Peaceful Uses of Outer Space as a centre of information for Member States, particularly the developing countries and those with small space programmes.”

29. The report of the Working Group established to consider in sequence and make recommendations regarding the need, feasibility and implementation of a navigation services satellite system, which was prepared under the chairmanship of Professor E. V. Chitnis, has been reproduced in annex IV of the Committee's report. The Working Group is of the opinion that it will be technically feasible to develop a navigation services satellite system to meet the particular needs of civil aviation and seaborne traffic and to help resolve many basic navigational requirements. However, the Working Group has suggested that the International Civil Aviation Organization (ICAO) and the Inter-Governmental Maritime Consultative Organization (IMCO), as well as other specialized agencies and interested international governmental and non-governmental organizations, should continue to study the requirements for potential applications for the navigation services satellite system in their areas of competence and has invited ICAO and IMCO as well as other agencies and organizations concerned to submit reports to the Committee, if possible, annually. The Indian delegation hopes that the Working Group will be able to meet again to consider the reports submitted to the Committee and that the Working Group will be able to report further progress to the Committee.

30. India attaches great importance to the proposed United Nations Conference on the Exploration and Peaceful Uses of Outer Space to be held in Vienna in August 1968, which will examine the practical benefits of space programmes on the basis of scientific and technical achievements and the opportunities available to non-space Powers for international co-operation in space activities, with special reference to the needs of the developing countries. India will actively participate in the Conference by contributing papers on various practical applications of space science such as geodesy, navigation communication and meteorology. Since the Conference is primarily meant for the advantage of the developing countries, it is our earnest hope that they will send participants to the Conference to derive as much benefit from it as possible.

31. The Government of India has already made available the services of Dr. Vikram A. Sarabhai, Chairman of the Atomic Energy Commission, on the panel of experts. We are confident that the panel of experts, under the chairmanship of Dr. Sarabhai, will meet as and when necessary to complete the tasks assigned to it within its terms of reference.

32. We are happy that the Legal Sub-Committee was able to make some progress at its sixth session on the draft agreements on liability for damage caused by the launching of objects into outer space and assistance to and return of astronauts and space vehicles. The early conclusion of agreements on both those subjects is of vital importance today in the context of increased activity in space research and exploration of outer space. In fact we would like to have had agreements on those two subjects open for signature last January simultaneously with the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space. But that did not materialize, as the Powers concerned paid insufficient attention to the formulation of agreements on those subjects at that time.

33. It has always been the view of the Indian delegation that consideration of the question of liability for damage caused by the launching of objects into outer space should receive priority. We hope that with the good work achieved by the Legal Sub-Committee last summer in arriving at some agreed points on the question of liability, it will be possible for this Sub-Committee to continue its good work at its seventh session, to find general agreement on the points which still remain unresolved, and to recommend a suitable agreement on this subject which could be adopted and opened up for signature by the General Assembly at its twenty-third session, in 1968.

34. My delegation notes with satisfaction that the Legal Sub-Committee has already registered agreement on the principle that a launching State should be absolutely liable to pay compensation for damage caused on the surface of the Earth and to aircraft in flight [*ibid.*, annex III] it appears that the Legal Sub-Committee was unable to reach any general agreement at its sixth session on what should be the appropriate financial limit for any claims under the proposed agreement on liability for damage caused by the launching of objects into outer space. We feel that in the nature of things it would be impossible to anticipate the possible extent of damage in such cases with any reasonable degree of accuracy. The proposed agreement on liability

should not, therefore, prescribe any financial limit to claims which can be made against the launching State. Such claims must depend in particular cases on the facts and extent of the actual damage caused.

35. From the beginning we have always maintained the position that the question of assistance to astronauts and rescue of astronauts are essentially humanitarian questions and should not be subjected to any controversy. We hope that it will be possible for the Legal Sub-Committee to complete its work on the draft agreement on this subject also at its seventh session and recommend a suitable agreement for adoption by the General Assembly.

36. It is obvious that the question of having a precise definition of outer space has now assumed greater importance. The Scientific and Technical Sub-Committee, which was requested by the Legal Sub-Committee to provide a list of scientific criteria that would be helpful in the definition of outer space, has stated that it is not possible at the present time to identify scientific or technical criteria permitting a precise and lasting definition of outer space. Nevertheless, that Sub-Committee has stated in its report that it would be appropriate for it to continue consideration of this matter in its future meetings. We hope that Member States will be able to submit further relevant material for this Sub-Committee's consideration and that the two Sub-Committees of the Committee on Outer Space will be able to find an acceptable definition of outer space soon. If a definition of outer space by the United Nations is unduly delayed, there is perhaps a danger that some States may unilaterally put forward certain claims or declarations which may later complicate our efforts to arrive at a generally acceptable definition based on scientific criteria. It is also very important now to find general agreement for the principle that outer space would be utilized exclusively for peaceful, meaning non-military, purposes. This would naturally facilitate agreement by the non-space Powers on a liberal definition of outer space.

37. At the meeting of the Committee on Outer Space last month my delegation had already stressed the necessity of improving the organization of the Legal Sub-Committee's work in the future. It appears that at its sixth session in Geneva from 19 June to 14 July 1967, the Legal Sub-Committee met for a period of three weeks but had only one meeting each day, which proved inadequate for it even to complete a single item of its work satisfactorily. It would be immensely useful if the date of its next session were fixed well in advance, so that the members of that Sub-Committee may have sufficient time to prepare its work, and it would also facilitate the holding of a larger number of meetings to enable the Sub-Committee to complete its work programme.

38. The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies came into force on 10 October. President Johnson while proclaiming the initiation of the Treaty stated that the next decade should increasingly become a partnership not only between the Soviet Union and America, but among all nations under the sun and stars. We welcome that statement and earnestly desire that both the United States and the Soviet Union will co-operate in this field in greater measure with other nations.

39. I should now like to refer to another matter to which my delegation attaches great importance. We have previously stated that outer space should be used exclusively for peaceful, meaning non-military, purposes and we remain convinced that the Treaty on outer space will be incomplete as long as it does not have a suitable provision to ensure that it will be utilized only for peaceful, meaning non-military, purposes.

40. Mr. KLUSAK (Czechoslovakia) (*translated from Russian*): New successes have been scored during the past year in the further exploration of space by man. May I take this opportunity to express our deep gratitude to all scientists and technicians for the results achieved. I would especially like to congratulate the Soviet scientists and technicians and the whole Soviet people for their latest outstanding success in the launching of the Venus automatic station and the landing on the surface of Venus.

41. That remarkable achievement, as confirmed by the wide and eloquent reactions in today's and yesterday's world press, is a new and important step in man's discovery of the infinite spaces of the universe. And this new achievement is happening this year, ten years after the launching by the Soviet Union of the first artificial earth satellite.

42. Ten years ago, on 4 October, the launching of the first satellite marked the beginning of the space era of mankind. The signals of the artificial satellite heralded a feat which is one of the most outstanding events of the twentieth century. In these first ten years there has been a rapid development of science and technology in the field of outer space.

43. Since the launching of the first artificial satellite there have, within short intervals, been other decisive achievements, such as the first manned flight in space, the soft landing on the moon and the first exploration of other planets.

44. These are fundamental events in the space era which had their origin in the country that this year celebrates the fiftieth anniversary of its birth.

45. The remarkable success achieved by the Soviet people and the primacy which it has achieved in the conquest of space are convincing proofs of the increase of its strength, the foundations for which were laid by the revolutionary events of fifty years ago.

46. Between 1917 and 1957 there is an intimate and a logical link. The year 1917 marks the beginning of an era of a new social system and 1957 marks the beginning of the era of the exploration of space. Soviet space science and technology deserve to be highly appreciated by all mankind.

47. The Czechoslovak delegation considers that this year too the work of the Committee on the Peaceful Uses of Outer Space was useful and helped to bring about closer co-operation between States in this field, as may be seen from the report distributed to us in document A/6804.

48. On 10 October the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer

Space, including the Moon and Other Celestial Bodies [resolution 2222 (XXI)] came into force, and our country was one of the first to sign and ratify it. We regard it as an important step towards making outer space a zone of peace and co-operation, first of all because the Treaty prohibits the placing of weapons of mass destruction in orbit around the earth. The Treaty also contains basic provisions for the settlement of legal problems arising out of the activities in space and has thus become the basis for a more detailed solution of some problems which we think should be worked out as soon as possible. Czechoslovakia considers that among the most urgent questions is that of an agreement on the assistance to be given to astronauts in the event of an accident or of an emergency landing. We hope, in view of the urgency of this question, that the necessary progress will be made in the shortest possible time.

49. Another very urgent problem is the working out of a draft agreement on liability for damage. An acceptable solution must be found from among the varying concepts of the different legal systems. We consider that the principle that the main responsibility for activities in space falls on the State, should be the main guiding factor and that, if that principle were acted on, such an agreement could also be successfully concluded.

50. Resolution 2222 (XXI)—unanimously adopted on the initiative of France—has presented the Committee with new tasks, or rather entrusted it with the study of questions relating to the working out of a definition of outer space and to its utilization, including the question of space communications. The Committee has already started working on these tasks. We are dealing here with an important problem in the solution of which all States are interested, and we think it advisable that the problem should be debated in the Committee and in both Sub-Committees. An approach covering all aspects of the problem should achieve useful results, taking into account the principle of the sovereignty of States and the needs for their security. Of course, some time will be needed to achieve such results.

51. The debates in the Committee up to now point to the fact that as a result of the rapid development of science and technology, it will become increasingly urgent that detailed rules should be gradually worked out in the various fields of space activity such as meteorology, geodesy, navigation and, especially, space communication, both from the legal and from the scientific and technical points of view. As far as Czechoslovakia is concerned we have for some time already devoted close attention to space communications and have had the opportunity on a number of occasions of making known our views on this subject.

52. We consider that the further development of space communications must be based on the principle of equality and non-discrimination. It must serve to strengthen international peace and security and contribute to further progress and co-operation between peoples in the economic, scientific, social and cultural fields. That is why we have recommended that an item should soon be included in the agenda of the Committee and its bodies asking for the working out of the main principles regulating the development and operation of telephone and telegraph systems through artificial satellites. That would also be consonant with paragraph 4 (b) of resolution 2222 (XXI).

53. We are confronted with urgent tasks and that is why we support the recommendation made by the Committee in paragraph 15 of its report that the Legal Sub-Committee should meet early in 1968.

54. On the activities in the scientific and technical fields the report also contains many important recommendations on questions relating to the exchange of information, support for regional programmes, international research equipment and the preparation and training of personnel. The activities of the Working Group studying the possibility of creating a navigation services satellite system also deserves attention. Although no final conclusions have been drawn as yet, the work done up to now has been useful. That is why the Czechoslovak delegation also supports the conclusions reached in the Committee's report on the scientific and technical fields.

55. The research now being conducted on outer space has reached the stage where we consider that increasingly systematic international co-operation on an ever bigger scale is required.

56. We are convinced that the results of space exploration and the practical benefits of international co-operation could make themselves more felt and prove more useful if the international situation was not worsening because of the aggressive action of some Powers and if an end could be put to the armaments race and substantial progress could be achieved in matters which would lead to general and complete disarmament.

57. Czechoslovakia attaches great importance to international co-operation in outer space activities and is taking part to the limits of its ability in certain scientific fields of space exploration. That is why we value highly the further development of co-operation this year between socialist States of which the General Assembly was informed in document A/6668. Because of the contribution made in the first place by Soviet science and technology, the development of this co-operation opens up to us new and wider possibilities for active participation in space research and the practical utilization of such research in numerous fields.

58. Our scientists are now preparing with keen interest for active participation in the international Conference in Vienna on the Exploration and Peaceful Uses of Outer Space. We are sure the Conference will provide a review of the first ten years of space exploration and will contribute to the practical utilization of those results in the interests of all interested States.

59. As each year passes, the great tasks of space exploration exert an ever-increasing influence on the activities of the United Nations Committee on the Peaceful Uses of Outer Space, which as a result contributes to the development of co-operation between States in this sphere. We are ready to continue to support fully the activities of that Committee along those lines in the future.

60. Mr. VINCI (Italy): My first and most pleasant duty is to convey to you, Mr. Chairman, the warmest congratulations of the Italian delegation on your election to the Chairmanship of the First Committee at the twenty-second session of the General Assembly. Your personality and your

qualities are well known to the Committee. You have served on its Bureau for the past three years in capacities entailing increasing responsibility, and we have no doubt that your experience and competence will enable you successfully to lead our work this year to constructive conclusions through a very heavy and momentous agenda.

61. Our congratulations go also to another whose face is familiar in our Committee, the representative of the Byelorussian Soviet Socialist Republic, Ambassador Guerodot Gavrilovich Tchernouchtchenko. No one could be personally more pleased than I at his unanimous election to the Vice-Chairmanship of this Committee.

62. I should also like to express similar congratulations to the Rapporteur, Mr. Torsten Örn of Sweden. The presence of a Swedish representative on the Bureau of the Committee is a well-deserved recognition of the important role that his country has played in the field of disarmament, both at the United Nations and at the Conference of the Eighteen-Nation Committee on Disarmament in Geneva.

63. Ten years ago at this time the world was jolted by a radio "beep" which would have been of very little significance had it not been for the extraordinary fact that it was coming from a transmitter located on board the first artificial satellite placed in orbit by the ingenuity and technical skill of human beings.

64. Amidst expressions of the astonishment and pride of all the people on earth at that accomplishment, the United Nations reacted at the time with remarkable speed to the implications of the new era. The thirteenth session of the General Assembly, acting upon the recommendation of the United States and the Soviet Union, unanimously endorsed by all Member States, adopted on 13 December 1958 resolution 1348 (XIII) in which,

"Desiring to promote energetically the fullest exploration and exploitation of outer space for the benefit of mankind,

"Conscious that recent developments in respect of outer space have added a new dimension to man's existence and opened new possibilities for the increase of his knowledge and the improvement of his life,"

it decided, *inter alia*, that the activities and resources of the United Nations and of its specialized agencies and other international bodies relating to the peaceful uses of outer space had to be assessed and co-ordinated; the co-ordination of national research programmes for the study of outer space under United Nations auspices had to be promoted; the future organizational arrangements to facilitate international co-operation in the space field within the framework of the United Nations had to be defined; and the nature of legal problems which might arise in the carrying out of programmes to explore outer space had to be assessed.

65. A year later, on 12 December 1959, the fourteenth session of the General Assembly approved unanimously resolution 1472 (XIV) which, on the basis of the results of the studies performed by an *ad hoc* Committee in accordance with resolution 1348 (XIII), established a Committee on the Peaceful Uses of Outer Space with twenty-four members, increased now to twenty-eight members by resolution 1721 (XVI).

66. Since then, the Committee on the Peaceful Uses of Outer Space has worked regularly and, with the help of its Legal and Scientific and Technical Sub-Committees, has been plodding slowly but surely towards the fulfilment of the difficult task assigned to it. Several important resolutions have been proposed by the Committee and unanimously approved by the General Assembly. Some very useful documents have been produced which have been helpful in spreading knowledge about space matters amongst Member States; an international sounding rocket range at Thumba has been sponsored; and this first decade of space activity has been crowned by the elaboration and signature of the space Treaty, which establishes the rules of conduct for States engaged or planning to engage in the peaceful exploration of outer space.

67. While our Committee on Outer Space was toiling with its tasks the space scientists and engineers of the world were certainly not waiting for its guidance in order to proceed with the carrying out of their programmes at a much greater speed. In ten short years of the space age, which, in terms of technological progress, could be recorded as hundreds of years, the world has witnessed the most extraordinary accomplishments which would not even have been dreamed of fifteen years ago.

68. The earth has been orbited for days by astronauts and cosmonauts; the mysteries of outer space and other planets of our solar system are slowly unveiled by United States and Soviet automatic space ships; the moon has become a familiar place, thanks to the Lunar, Ranger, Surveyor and Orbiter probes; and the day a human being will set foot on a celestial body other than the earth is getting close, while the knowledge of cosmic environment has increased more in those ten years than in all the centuries since the birth of civilization.

69. In addition to the great scientific endeavours in space, the field of space applications has also been flourishing: meteorological satellites, communication satellites and surveillance satellites have reached the operational stage, while navigation satellites, earth resources satellites, broadcasting satellites and manned-space stations are planned or are in the experimental stage.

70. The space applications activity is truly the most significant of all space endeavours because it is closely related to the practical benefits that mankind is expecting from the peaceful uses of outer space even if, in the long range, the scientific achievements open new and unexpected areas for more applications.

71. Last but not least, since by their very nature space activities are international, these first ten years of the space age have established the foundation of a lasting international co-operation: the many bilateral agreements concluded by the United States NASA with more than 80 nations, and the regional space pacts of the European Space Research Organization (ESRO), the European Space Vehicle Launcher Development Organization (ELDO), the Inter-American States and the socialist States are vivid examples of an active partnership towards peaceful space objectives.

72. In that respect I would mention briefly the very encouraging experience made by Italy in carrying out its

space activities in co-operation with other countries. Italy enjoys a very effective working relationship with all the other members of the ELDO group and the ties of friendship, technical integration and reciprocal esteem established during the development work of the EUROPA booster and its experimental satellite represent a priceless dividend for our aerospace industries.

73. Similarly, the co-operation within ESRO has strengthened the already existing ties among Italian and other European scientists and has further stimulated the exchange of views and the conduct of joint projects of great scientific value.

74. Equally satisfying has been our co-operation with 57 other countries within the International Telecommunications Satellite Consortium (INTELSAT) for the joint purpose of developing and operating a global satellite communications system. The Italian representative member of INTELSAT, TELESPAZIO, has recently enlarged and modernized its ground station which with two antennas—one has an 84-foot disc—and updated supporting equipment, is one of the most advanced in the world today.

75. Furthermore, I wish to mention with particular pleasure the friendly co-operation with the United States of America and with the Republic of Kenya in the conduct of the San Marco project.

76. The United States National Aeronautics and Space Administration supplied the Italian Commission for Space Research of the Italian National Research Council with the Scout booster and with highly appreciated technical advice and assistance throughout the programme, and the Republic of Kenya, through its scientists of the University of Nairobi, provided co-operation in the acquisition and analysis of data for the ionospheric experiments carried out by the San Marco B Satellite and supplied valuable and specialized logistic services both at the launching site and at the tracking and telemetering station at Nairobi. That co-operation, which is continuing for future launchings of more sophisticated San Marco satellites and which brings together in the peaceful exploration of space one of the great space Powers, the United States, a developing nation, Kenya, and a fairly developed one, Italy, has been extremely satisfactory.

77. I wish also to take this opportunity to repeat what has been stated many times in the past by my delegation, that the Italian Government is ready to make available the San Marco mobile range and to co-operate with any nation or group of nations which might be interested in launching space vehicles from that equatorial site. In this respect I believe that it might be interesting to note that the United Nations Committee on the Peaceful Uses of Outer Space has prepared a very good set of conditions, for sponsorship by the United Nations, of international sounding rocket ranges, but no consideration has been given so far to establishing a set of rules for an international satellite launching range.

78. The subject of international satellite launching ranges, with its implication of joint launchings of space vehicles by many nations, leads me to offer some considerations which are a logical consequence of my previous remarks, namely,

that the world is still very far from the ultimate goal in the field of international co-operation in outer space—the conduct of joint launchings and joint programmes by all interested nations, especially by the two great space Powers.

79. The General Assembly of the United Nations has asserted, in dozens of unanimously approved resolutions over the past ten years, that space activities are of fundamental importance for the benefit of mankind. In spite of the fact that in recent years several nations have made notable progress in this field—some, like France, Canada, the United Kingdom and Italy, achieving the goal of placing satellites in orbit—it is an undeniable truth that the great bulk of space exploration and exploitation is still the fairly exclusive domain of the two great Powers, the United States and the Soviet Union. We all belong to the human race and so we feel entitled to comment on an activity which is recognized as being full of potential benefit for all of us, and on the way that activity is carried out by the States which have the main responsibility for it.

80. First of all, we have a feeling of admiration for the tremendous achievements of which both countries are justly proud, such as the missions of the astronauts and cosmonauts, the solar and planetary probes and the launching of space vehicles to the moon, which are all fantastic feats. We learnt yesterday that the Soviet space ship had successfully landed on Venus. We heard this morning from the representative of the Soviet Union the first results of that outstanding achievement. This is an extraordinary event which increases our admiration for the Russian scientists who have been the first to reveal the surface of Venus. While that Soviet space ship was approaching Venus, a United States space ship was following at a greater distance and will fly close to the planet. Both of those space craft were tracked with the co-operation of the Jodrell Bank Observatory in the United Kingdom. That is why in expressing the warmest congratulations of my delegation to the Soviet Union and the United States and to the United Kingdom scientists I cannot help but wonder whether this encounter under the sign of Venus could be a good omen for international love. The mythological Venus had several love affairs. If the celestial Venus could have a joint love affair with the two suitors of today we certainly would not mind.

81. I would go further and say that mixed with our feelings of awe and appreciation for these endeavours we have a feeling of slight regret that it has not been possible up to now for the two space Powers to co-operate fully with each other in the realm of space after the great expectations raised by the exchange of letters between President Kennedy and Chairman Khrushchev in March 1962. That exchange produced the Blagonravov-Dryden agreement¹ which fell far short of the great ideas formulated by the two leaders, and neither the conduct of “hand-in-hand” projects nor the “mutual definition of steps to be taken in sequence for a joint exhaustive scientific investigation of the planets Mars or Venus”, envisaged in such letters, has materialized. My delegation firmly believes that it would be a great victory for the cause of peace and

¹ *Official Records of the General Assembly, Seventeenth Session, Annexes, agenda item 27, document A/C.1/880.*

for the whole human race if the two great space Powers, their present differences notwithstanding, could agree at least to join forces in the next large space enterprise after the lunar landing—presumably the manned exploration of Mars. My country, as I am sure many others, is ready to render all co-operation and assistance for the planning of such an endeavour, which would contribute more than anything else on earth to the establishment of a spirit of global understanding and to the cessation of the arms race.

82. It requires some courage to take new initiatives, but we should be inspired by the courage of the astronauts and cosmonauts, who have been recognized as ambassadors of mankind. Unless bold steps are taken to break the spiral of the arms race humanity is doomed to an inglorious end. Space is offering us an opportunity to change that gloomy future into a future of hope and exciting discoveries. It is our duty to exploit it.

83. I wish now to comment briefly on the report of the Committee on the Peaceful Uses of Outer Space, which is before us for consideration and approval. Like previous reports, it is a well-prepared document for which full credit should be given to the able, experienced and active Chairman of the Committee, Mr. Kurt Waldheim, to the members of its bureau, Mr. Gheorghe Diaconescu of Romania and Mr. Geraldø de Carvalho Silos of Brazil, and to the dedicated personnel of the Outer Space Affairs Group under the leadership of Mr. Abdel-Ghani. It goes without saying, of course, that my delegation, having participated in the work of the Committee and of its subsidiary bodies, fully concurs with the recommendations contained in the report and supports them for the approval of the General Assembly. I shall therefore limit my remarks to the significance of some new ideas presented during the discussions in the Committee and to the general guidelines for its future work and that of its auxiliary bodies, as seen by my delegation.

84. Considering first of all the work performed by the Scientific and Technical Sub-Committee, I wish to comment on the proposal made by some representatives to examine the possibility of creating a United Nations space agency to deal with all matters pertaining to international co-operation in space. Other representatives have taken the position that the creation of such an agency would be premature at this time and would not be warranted by the scope and extent of today's co-operative programmes. My delegation shares the latter opinion and furthermore believes that a space agency is not really needed inasmuch as the combination of the Committee on the Peaceful Uses of Outer Space, especially if completed in all its bureaux, as envisaged by United Nations rules, and the Outer Space Affairs Group of the Secretariat supplies a legislative-executive leadership which is just as effective as an agency in dealing with space matters. It might be, as has been suggested, that the Outer Space Affairs Group should be enlarged in order to cope with its growing activity and responsibilities, and my delegation is in favour of such a step, taken in the light of a demonstrated need. In that connexion my delegation is rather worried about the statement by Mr. Abdel-Ghani that his office has not been able to implement some of the recommendations approved by the General Assembly because of lack of funds and personnel. That being the case, it seems advisable that those

deficiencies should be corrected in order not to jeopardize the remarkable efforts made by the office to carry out space policies recommended by the Committee on the Peaceful Uses of Outer Space and endorsed by the General Assembly.

85. In particular, the Committee on Outer Space recommended that the report on co-operative international space programmes, which is one of the key documents produced by the Office of Outer Space Affairs, should be given "as wide a distribution as possible".

86. This phrasing is considered not too satisfactory by my delegation. We have accepted it only as a compromise, because we feel that there should be a very clear designation of the addresses in an approved mailing list which would cut short all complaints from interested parties and go a long way towards the goal of providing the information to whoever needs it. This consideration also applies to the distribution of the International Directory of Facilities for Education and Training in Basic Subjects Related to the Peaceful Uses of Outer Space.

87. In regard to the encouragement of international programmes my delegation shares the views of many others that the World Weather Watch Programme organized by the World Meteorological Organization is a realistic and well-constructed programme which deserves to be supported by all Member States so that it can be rapidly implemented.

88. Apart from this programme, my delegation notes a regrettable lack of new initiatives in the area of international programmes and believes that a bold approach is required from the Committee in finding possible ways of international co-operation in the field of space applications, in order to avoid increasing disenchantment by the developing countries with the perspectives of practical space benefits.

89. I mention on purpose "space applications" because they produce immediate and practical benefits while the scientific programmes are aimed at the development of knowledge which, in turn, might result in beneficial applications but at a much later date.

90. Here again it requires a certain amount of courage to discuss matters which involve so many problems and which it would be much easier to shelve indefinitely, waiting for the problems to solve themselves and hoping that nobody will raise any embarrassing questions. But questions are being and will be raised, and it is foolish to try to ignore them.

91. Meteorological satellites benefit mankind in many ways, and so do communication satellites, earth resources satellites, educational broadcasting satellites, navigation satellites, peace surveillance satellites and manned space activities.

92. It is the opinion of my delegation that, no matter how complex and difficult the matters related to such applications, they should be discussed by the Committee on the Peaceful Uses of Outer Space, not for the purpose of finding immediate solutions or presenting proposals which might be premature at the present stage, but with the

intention of clarifying the issues at stake in each case for the benefit of all Member States, which will thus be in the position to make far-reaching decisions when the time is ripe to consider them.

93. In this regard my delegation wishes to give full support to the suggestion made in the Scientific and Technical Sub-Committee [48th meeting] by the representative of Australia that:

“ . . . The Sub-Committee might discuss more fully new applications of satellite technology which were approaching or had reached realization and which would benefit from implementation on an international basis.”

94. This, we believe, will tremendously help non-space and developing countries to take a new interest in space affairs by bringing the potential benefits of various satellite systems into the proper perspective and inserting a note of practical concern into a debate which in these last years, by being mainly concerned with the scientific and legal aspect of space activities, has resulted in the growing absenteeism of those countries interested only in space practical benefits aimed at solving their immediate problems.

95. By the same token it is significant to note that the development of that absenteeism in regard to the potentials of space activities is threatening the success of the forthcoming Vienna Conference. Already approximately 30 per cent of the developing States Members of the United Nations have declined to participate. While my delegation hopes that those States will reconsider their decision, it wishes to reassert its interest in and full support for the Conference which, as one of the previous speakers has stated, should become one of the milestones in the development of international co-operation for the peaceful uses of outer space.

96. Finally, my delegation wishes to reaffirm here its appreciation for the brilliant work performed by the Government of India at the international sounding rocket range of Thumba, and its full support for the granting of United Nations sponsorship to the new sounding rocket facilities provided by the Government of Argentina for the peaceful exploration of outer space.

97. I wish to make some remarks now on the legal aspects of the report of the Committee on the Peaceful Uses of Outer Space. I shall start by joining my colleagues in commending the signing of the space Treaty by eighty-eight States and the fact that it entered into effect on 10 October 1967. The Committee on Outer Space deserves full credit for the preparation of this document which represents, in my opinion, one of the major political achievements of the past few years. It represents also a solid foundation on which future peaceful co-operation in space among States can be built, with its important implications for the solution of our earthly problems.

98. It has been stated by some colleagues that the failure to arrive at a clear-cut definition of the boundary between air space and outer space could have the effect of weakening the provisions of the Treaty. My delegation does not share that pessimistic opinion and confirms its belief that for the time being there is no practical need for such a definition for the application of the Treaty, especially in

view of the impossibility, as reported by the experts of the Scientific and Technical Sub-Committee, of indicating scientific and technical criteria for establishing where air space ends and outer space begins.

99. Unfortunately, the note of success represented by the signature of the space Treaty has not been followed with equal momentum by the Legal Sub-Committee in elaborating the detailed clauses for the agreement on liability and damages and assistance to and return of astronauts. We would have preferred in this respect to receive from the Committee on Outer Space a much thinner report, since the thickness of the one before us is caused by the discordant legal opinions contained in the annex.

100. However, much as I regret this slow-down of the work of the Legal Sub-Committee, I have to acknowledge that its task becomes more and more difficult as the discussion shifts from general principles to detailed agreements on complex matters involving national sovereignty and financial compensations. I am therefore encouraged by the statement made by the representative of the Soviet Union during the tenth session of the Committee on the Peaceful Uses of Outer Space on assistance to and return of astronauts and space craft, which might help in reaching a definite agreement on this subject.

101. It is the opinion of my delegation that assistance to and rescue and return to their home country of astronauts and cosmonauts is not only a legal responsibility but a moral and humanitarian one as well, thus isolating this issue from any political by-play and requiring an immediate solution.

102. In order to achieve positive action both on that agreement and on the one on liability and damages, it appears desirable that the Legal Sub-Committee meet as soon as possible, even before the end of this session of the General Assembly, taking into consideration the favourable evolution of the positions of some Member States which might bring about a general agreement in a short period of time.

103. I have now come to the end of my statement—it was a little too long, perhaps, and I apologize for having taken so much of the Committee's time. I should like to conclude with one special wish. Going back to an expression I used before, I would say that the second decade of the space venture starts under the sign of Venus. She was for the ancient Greeks and Romans the incarnation of beauty and love. Let us hope that the next ten years will be marked by more beauty and more love, bringing us closer to the old dream of mankind, everlasting peace on earth.

104. Mr. DIACONESCU (Romania) (*translated from French*): The present discussion on international co-operation in the peaceful uses of outer space is given special significance by the fact that it is occurring at a time when we are taking stock of the first decade of outer space activities. The Soviet Union launching of the first artificial Earth satellite on 4 October 1957 opened a new chapter in the history of human thinking and civilization, the chapter of the cosmic age.

105. If we look back over the ten years of space activities, we note that the schedule of efforts devoted to conquering

outer space for the benefit of mankind is marked by achievements that have a prime importance for modern development.

106. As other speakers have also emphasized in their statements, space activity and the research carried out so far in the space field have already revealed the vast prospects offered by the use of outer space, which is seen as a new method of accelerating economic and social progress in the world and furthering co-operation and closer relations among States. Space ships, the messengers of man's genius, are being launched more and more boldly deep into space, establishing one after the other new advance posts on this voyage of human discovery.

107. The landing of the Soviet unmanned station Venus 4 on the planet Venus is science's latest triumph in that direction. I take this opportunity to extend to the Soviet Union delegation the heartiest congratulations of the Romanian delegation on that outstanding triumph of Soviet science and technology.

108. The increasingly frequent use of artificial satellites to perform meteorological, air and sea navigation, and telecommunications and television services, has already become a commonplace. One important potential factor in this relatively new field of human activity is the rapid increase in the number of States directly engaged in space research. In addition to the Soviet Union, the United States of America and France, a growing number of countries are taking part in the efforts aimed at the conquest of space. A quick glance at the review of national and co-operative space activities [A/AC.105/L.36] that was discussed at the last session of the Scientific and Technical Sub-Committee, reveals how substantial and varied the concern of many States has become with regard to research on the problems of outer space.

109. Equally noteworthy is the growing interest taken in space activities by the specialized agencies and by other international organizations, in particular the International Telecommunication Union, the World Meteorological Organization, the International Civil Aviation Organization, the Inter-governmental Maritime Consultative Organization, COSPAR and others. Over the past year, efforts aimed at developing activities in the exploration and use of outer space for peaceful ends have been accompanied by further steps towards the creation and strengthening of the legal foundation that must underlie that activity. Following the signature in January 1967 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, discussions have been held within the Legal Sub-Committee concerning draft agreements on assistance to and return of astronauts and space vehicles, as well as on the liability for damages caused by the launching of objects into outer space.

110. Although the progress made this year with the preparation of these two agreements seems relatively small, the Romanian delegation is of the opinion that the discussions and exchanges of views on the subject have been most useful, establishing the basis for more productive activity in the future.

111. We also regard as most timely and useful the exchange of views that has taken place this year within the Legal Sub-Committee and the Scientific and Technical Sub-Committee concerning the definition of outer space.

112. We consider that the General Assembly should request the Committee on the Peaceful Uses of Outer Space to go on trying to draw up a definition that will ensure both respect for the sovereignty of States over their air space and the free access of States to outer space with a view to its exploration and use for peaceful purposes.

113. In its belief in wide co-operation among States based on equality of rights and mutual benefits, Romania is doing its utmost, in accordance with its means, to contribute to the efforts being made by the international community to explore outer space and make use of it for the benefit of all mankind.

114. During this year, the space research undertaken by Romanian experts has included optical tracking of artificial satellites for ephemerides services and the calculation of satellite co-ordinates, researches on gas dynamics and flight theory, analyses of data provided by meteorological satellites, and physiological and medical investigations with special emphasis on the influence on the living organism of certain environmental conditions akin to those that prevail during outer space flight.

115. Most of the investigations were carried out within the framework of bilateral, regional or international co-operation. The satellite tracking was done in co-operation with the Cosmos Centre in Moscow, the Smithsonian Institution at Cambridge, Massachusetts, the Goddard Space Flight Center (NASA) or within the framework of the EUROBS and INTEROBS programmes. Some solar investigations were made within the framework of the programme entitled "Rapid Variations of Solar Magnetic Fields" co-ordinated by the Pulkovo Observatory (USSR), or of the programme known as the Proton Flare Project, co-ordinated by the Meudon Observatory (France).

116. Romanian institutions also have co-operative links with other astronomical observatories taking part in space programmes, such as those of Zurich, Athens, Honolulu, the Fraunhofer Institute of Freiburg, etc. Bilateral co-operation programmes have also been set up with the Academies of Science of the Soviet Union and Poland.

117. Romania is likewise taking part in the socialist countries' programme of co-operation in research and the use of outer space for peaceful purposes. The Conference of Experts from Socialist Countries held last April [A/6668] was devoted to examining questions relating to the physical properties of outer space, space meteorology and space biology and medicine, and to the joint launching of satellites and rockets. At the same time, the participants in the Conference examined the problem of establishing an international satellite communications system to transmit television programmes, telephone messages and other types of information.

118. The new steps taken in the sphere of space activity, as described in the report of the Committee on the Peaceful Uses of Outer Space now under discussion, justify the hope,

I think, that activities related to the exploration and peaceful use of outer space, as well as the expansion of international co-operation in that field, will continue to increase in the future.

119. No doubt in 1968 co-operation in the field of space activities will bear the imprint of the first International Conference on the Exploration and Peaceful Uses of Outer Space. Like other States, Romania is preparing for the planned scientific gathering of experts at Vienna in the conviction that all participants will cull from it very useful ideas, opinions and experiences concerning the increased application of space technology with a view to satisfying the existing requirements of economic and social development.

120. Mr. GHORBAL (United Arab Republic): The first decade of man's penetration into outer space has just come to an end. Ten years ago the Soviet Union opened a new chapter and inaugurated a new era in the history of mankind. During those eventful ten years, spectacular achievements have been accomplished by the Soviet Union, by the United States and by others. What was science fiction a short time ago has evolved into factual reality. An ever-increasing number of States are now involved in space technology and space research. France has already made the break-through and has now joined the group of States with sophisticated space programmes. India, Italy, Japan and others have become the budding space States—if I may borrow the terminology of our colleague from the Netherlands. It looks as if we are continuously moving at an extremely accelerated pace—which I call the space pace—to reach the planets and to discover the mystery of the universe. I hope we move equally at space pace to confine the results of these ventures solely to the benefit of mankind.

121. The second decade of man's penetration into space starts with another great achievement by the Soviet Union. We have been gratified, yesterday and today, to hear of the successful soft landing of a laboratory from the Soviet satellite Venus 4 on the planet Venus. May I join my colleagues who preceded me, Mr. Chairman, and you, Sir, in expressing our sincere congratulations to the Soviet delegation and, through it, to the Soviet scientists and to the Soviet people for their great and new achievement.

122. I believe that the United States of America also has a satellite on its way to and around Venus, with a programme designed to get a series of pictures and data about that far-away planet. We equally wish them success in their venture.

123. The accelerated flow of technological advancement exceeds all limits of imagination. Yet, while scientists are sparing no effort to cope with the endless challenge of space activities, statesmen and politicians are not yet keeping pace with such speedy progress. One cannot fail to notice that an increasing gap is developing between the progress in technology and political arrangements devised to regulate the exploration and use of outer space. One hopes that the political and legal regulations will be commensurate with the rampant technical progress. The United Arab Republic envisages the goals we are striving for as two-fold: (a) the exploration and utilization of outer

space for exclusively peaceful purposes, and (b) that the exploration and use of outer space should be only for the betterment of mankind and to the benefit of States irrespective of the stage of their economic or scientific development”, as stated in General Assembly resolution 1721 (XVI).

124. Accordingly, we must conceive that we are still a long way from achieving our goals. True, immense strides have been taken and difficult obstacles have been successfully surmounted. But our balance sheet still falls short of attaining the various dimensions of what we aspire to.

125. The Treaty which was unanimously adopted last year by the General Assembly must be considered a landmark and a momentous step towards peace and international co-operation in outer space. However, it is the considered opinion of my delegation that the Treaty in its present form requires more elaboration and new safeguards.

126. Last year, the United Arab Republic representative—you, Sir—stated during the deliberations of the First Committee that article IV contains a serious loophole since it does not explicitly provide for the use of outer space solely for peaceful purposes [1493rd meeting].

127. Tuesday last, our colleague from the Netherlands reminded us [1498th meeting] of the words of the Secretary-General on the occasion of the adoption of the resolution by the General Assembly concerning the outer space Treaty. The Secretary-General stated:

“... the door is not yet barred against military activities in space. The crux of the difficulty is that space activity is already part of the arms race, a fact which we have to reckon with until humanity reaches the stage of an agreement on full and complete disarmament.” [1499th plenary meeting, para. 180.]

128. We firmly believe that humanity cannot afford to witness an arms race of colossal magnitude in outer space. The consequences are too ominous. Judge Manfred Lachs, the former Chairman of the Legal Sub-Committee, pinpointed the problem confronting us in his erudite statement on 16 December 1966 when he said, in respect to article IV, that

“our efforts, to be further effective, must be pursued in all dimensions, for developments and events on our globe cannot fail to exert an influence wherever the consequences of acts and omissions of States are felt.”²

The Treaty is undoubtedly a great achievement, a huge stride towards the introduction of the rule of law in outer space, but the work is not yet exhausted and we must relentlessly continue our endeavours in order to ensure a secure future for mankind.

129. Hence, the consideration of the topics which have direct bearing on the Treaty should be expedited. For over four years now, the Legal Sub-Committee has been concentrating its time and effort on drafting two conventions on liability for damage caused by the launching of objects

² This statement was made at the 1491st meeting of the First Committee, the official record of which is published in summary form.

into outer space and on assistance to and return of astronauts and space vehicles. Until now limited progress has been achieved. We do hope that these two important conventions will be speedily concluded.

130. Another subject which demands our utmost attention is that of the utilization of outer space, including the various implications of space communications. The General Assembly pronounced on this matter by requesting in paragraph 4 (b) of resolution 2222 (XXI), the Committee on the Peaceful Uses of Outer Space to begin the study of questions relative to the definition of outer space and the utilization of outer space and celestial bodies, including the various implications of space communications. This recommendation was not carried out by the Committee. We believe the need is being felt for an international agreement in order to regulate the content of the direct relaying of radio and television broadcasts from satellites. This new spectacular technique should be wholly dedicated to fostering friendly relations among the people of the world.

131. The Treaty touched upon this matter in its preamble by

"Taking account of United Nations General Assembly resolution 110 (II) of 3 November 1947, which condemned propaganda designed or likely to provoke or encourage any threat to the peace, breach of the peace or act of aggression, and considering that the aforementioned resolution is applicable to outer space," [General Assembly resolution 2222 (XXI), annex].

Therefore there is no novelty in the subject, which is an integral part of the legal principles that should govern the realm of space. The Legal Sub-Committee should be exhorted to take up this matter at its next session.

132. In 1965, the General Assembly requested the Committee on Outer Space to prepare suggestions for an international programme for training and educating scientists from non-space Powers. [*General Assembly resolution 2730 (XX)*]. This recommendation was reiterated in 1966 [*General Assembly resolution 2221 (XXI)*]. The General Assembly pronounced twice on the same matter, so it is natural to expect the request to be given high priority and to be put into effect forthwith. Nevertheless, we find ourselves faced with inexplicable silence on the part of the Committee. Our perplexity is not alleviated, however much we scrutinize and ponder its report.

133. The developing countries attach great importance to the training and education programmes, and in the field of outer space activities only a privileged few are considered developed. For several years now the delegation of the United Arab Republic has stressed the necessity for establishing an international programme under the auspices of the United Nations. We were inclined to think that, as a subsidiary body of the General Assembly, the Committee on Outer Space is the proper forum for tackling this task. This has not as yet materialized. However, my delegation believes that the Committee on Outer Space must and will, during its forthcoming session, take the necessary measures to implement the General Assembly resolutions concerning outer space.

134. The delegation of the United Arab Republic also believes that a great deal could be done by the Committee

on Outer Space in the field of education and training. We have applied our minds to the possible avenues before the Committee in this regard. While we do not feel it necessary to burden our proceedings at this stage by a detailed discussion on how to achieve this end, we feel at the same time that the Committee could in its coming session consider some of the ideas we and others may put here before the Assembly. My colleague from India presented this morning valuable suggestions in this regard. I am sure that others of us will do likewise and that all these suggestions will provide ample material for the Committee in dealing with the question of education and training.

135. In this regard the delegation of the United Arab Republic would like the Scientific and Technical Sub-Committee to explore the following possibilities.

136. That the space Powers and those who are conducting advanced research in outer space be requested to allocate several fellowships each year at their universities and research centres at the behest of the United Nations. The United Nations could act as a clearing-house for the applications and for the selection of the best qualified, giving due regard to the needs of the developing countries.

137. We are inclined to believe that the United Nations could also make maximum use of the rocket launching stations under its sponsorship. Training courses should be created at these stations to meet the needs of the developing countries; financial assistance could also be extended to their specialists to enable them to participate in these courses. In this respect, my delegation notes with pleasure the continuing sponsorship by the United Nations of the Thumba Equatorial Rocket Launching Station. We are equally pleased to note the decision of the Committee to arrange for a visit by a small group of scientists to the station near Mar del Plata with a view to bringing it under the sponsorship of the United Nations. We hope that other stations in different regions of the globe will soon be put under United Nations sponsorship, thus helping to serve the purposes I have just referred to.

138. During the deliberations of the fifth session of the Scientific and Technical Sub-Committee, two constructive proposals were submitted by the delegation of Iran which had the full support of Austria and the United Arab Republic. Both proposals had in mind the encouragement and advancement of international co-operation in outer space, which is the primary endeavour of the United Nations in the field of the peaceful exploration and utilization of outer space.

139. The essence of the proposals, which unfortunately have so far been rendered ineffective, was that the present organizational arrangements should be examined and the effectiveness of those arrangements should be evaluated. On the basis of this evaluation we may be able to determine whether it is desirable and feasible in the second decade of outer space to consolidate the existing machinery or have new organizational arrangements.

140. The question of reconsidering the international machinery entrusted with outer space matters is not a new one. In 1961 the Conference of Heads of State or Government of Non-Aligned Countries meeting in Belgrade

went even further by suggesting the establishment of an outer space agency. This was considered by some as going too far. There was, among other reasons, fear of proliferation of agencies and organizations. Several countries, on the other hand, have submitted constructive proposals, such as the Mexican proposal to establish an information centre within the United Nations. Perhaps some suggestions may yet come in; some may be still premature, but with the rapid advances in research on outer space we should have the foresight to embark on an honest quest to meet the increasing needs of the future.

141. I now turn to the United Nations Conference on the Exploration and Peaceful Uses of Outer Space. At the outset I should like to express my delegation's deep appreciation for the assurance given on 17 October by Ambassador Waldheim, the distinguished and able Chairman of the Outer Space Committee, that the Austrian Government "will do everything in its power to contribute to its complete success" [1497th meeting, para. 69].

142. The Austrian Government has very graciously offered its beautiful capital, which has been the host for successive United Nations conferences and is the seat of two important United Nations bodies. The success of the Conference, in our view, depends on the joint efforts of the participating States, both developed and developing. A special responsibility lies with the space Powers, which have the technological know-how and the means needed to derive the utmost benefit from the Conference.

143. My delegation realizes that the non-space Powers and in particular the developing countries have a great deal to learn and to gain from the discussions throughout the session of the Conference. In fact, the Conference was envisaged mainly to assist the developing countries and to give a thrust to their quest to grasp the modern technology of outer space. Therefore we sincerely hope that all invited States will attend and take part effectively in the deliberations of the Conference. We should not look upon the Conference as only another step in furthering international co-operation in outer space. In fact, it should be considered as the threshold for further break-throughs in the realm of outer space exploration and research and for helping the developing non-space countries to make use of the achievements in this field for the advancement of their masses.

144. The United Arab Republic delegation is happy that the noted Indian scientist Dr. Sarabai was chosen as Chairman of the Panel of Experts which is entrusted with the preparations for this Conference. His wide scientific experience and the wise guidance of the Chairman of the Committee on Outer Space are indeed good omens, and we are confident that they constitute a solid guarantee of the success of the Conference.

145. Mr. LÖRINC (Hungary): There could hardly be a prelude more befitting the importance of the theme of our debate than the signals being received from the surface of Venus and transmitted by Venus 4. On behalf of my delegation, I wish to join all those who have preceded me in expressing their most heartfelt congratulations on this unprecedented feat achieved on the tenth anniversary of the first Sputnik.

146. My delegation expressed its satisfaction with and full support of the Bureau of this Committee when it first took the floor during the debate on the organization of the work of our Committee. I now wish only to reiterate our conviction and hope that the Bureau will be fully able to guide our by-no-means-easy work to satisfactory and positive results. I would be doing less than justice to history if I did not express my best wishes to a member of the Bureau, our Vice-Chairman, whose country this year is celebrating the fiftieth anniversary of a revolution which, among other achievements, also gave it statehood.

147. The tenth of October of this year, the date 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, is not merely an occasion for all of us who laboured on concluding the Treaty to feel satisfaction. It is true that the pace of events from the adoption in 1963 of the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space [General Assembly resolution 1962 (XVIII)] to the ratification in 1967 of the present Treaty could not be called excessively fast. It is, however, an undeniable fact that once the conditions have been created—even if we almost fell short of our aims on the way, for reasons not of our making—the state of peace can be achieved in a given environment. That is the first conclusion one can draw from the date of 10 October. Still, part of this conclusion is a characteristic feature of both the Moscow partial test-ban Treaty³ and this one—the first major step forward taken since 1963 in this field—that both are universal in their proclaimed objective of participation, thus differing fundamentally from the provisions of several imperfect resolutions of the United Nations General Assembly.

148. The second conclusion is a less happy one. The impasse in the procedural debate in our Committee proves only that outer space is one of the very few places which have not been entirely poisoned this year through the present international tensions created by the United States war of aggression in Viet-Nam. It is no secret to any of us that the forecasts transmitted by weather satellites are being utilized for military purposes, to mention but one direct example physically linking our present item to the aggression against Viet-Nam.

149. Let there be no mistake. My Government fully supports the Treaty and was among the first to sign and ratify it. We do not under-estimate its importance. In order to proceed, however, to further significant steps, we must also size up the obstacles to be surmounted.

150. The year 1967, which is marked by the Treaty, and the month of October carry another kind of message, a more cheerful one. That message is of a universal character. We the representatives of the socialist countries form a constituent part of this world Organization. We are sincerely convinced that the ideas that triumphed in the great October Socialist revolution have a direct bearing on the work of the United Nations. It is in that way that we work

³ Treaty banning nuclear weapon tests in the atmosphere, in outer space and under water, signed in Moscow on 5 August 1963 (United Nations, *Treaty Series*, vol. 480 (1964), No. 6964.

for the objectives that we consider to be right. Foremost among them is, as one of the main corner-stones of October, the principle of peaceful co-existence. That, I submit, is precisely one of the chief points of the Treaty: peaceful co-existence of nations extended to outer space. The other part of the message came forty years later, that is, ten years ago, from the “beep-beep” of what the world has since learned to call by its Russian name, Sputnik. Sputnik is an achievement that underlines notably the need to live peacefully together. On the whole the message is thus one offering and demanding peace, among others, in accordance with the Charter of the United Nations.

151. My country, a small and modest member of the Committee on Outer Space, has already stated its views in the Committee as well as in its Sub-Committees. That fact makes it comparatively easy for me to express our agreement with the report of the Committee contained in document A/6804. Taking the sequence in the report as a basis, I wish to make the following brief remarks.

152. First, while the Scientific and Technical Sub-Committee can rightly be proud of its achievements in a number of fields, it should still concentrate also on the scientific and technical criteria facilitating the precise and lasting definition of outer space.

153. Second, in the Legal Sub-Committee my country made a modest contribution by submitting a draft convention concerning liability for damage caused by the launching of objects into outer space, the revised draft of which together with other drafts served as a basis for discussion. We have to note with a feeling of satisfaction that agreement has been reached on some points of six different articles contained in the three relevant drafts. We fully subscribe to the view of the Committee expressing, in paragraph 15, “. . . the hope that the Sub-Committee will be able to make more progress”.

154. Third, as far as the Report of the Working Group on a Navigation Services Satellite System is concerned, we consider the subject one of those which small countries like ours could fruitfully participate in, and greatly benefit from.

155. Permit me to illustrate this point with a few examples from our experience. Space research is organized and directed in Hungary by a Governmental Committee and the Academy of Sciences. There are several learned societies and professional institutions aided by ten official establishments conducting research in different fields of this topic. Six universities or faculties provide graduate and post-graduate training in the related subjects.

156. In accordance with our modest means we co-operate in different joint projects with the Soviet Union and other Socialist States. This co-operation was further developed and strengthened in practically every field related to space

research at the Conference of representatives of socialist countries held in April this year. Hungarian ground stations published more than 400 photographs transmitted by satellites. In our opinion the World Weather Watch can make an important contribution to the benefit of mankind both socially and economically. Our representative in the Working Group put our opinion on record precisely and in detail.

157. My delegation was pleased to read the extract from the statement of the Chairman of the Committee on Outer Space, the representative of our neighbour, Austria, on the preparations for the United Nations Conference on the Exploration and Peaceful Uses of Outer Space. We fully agree with him and we offer our co-operation in achieving what he so rightly defines as our common purpose:

“... to see the Conference, the first United Nations Conference on the Exploration and Peaceful Uses of Outer Space, become a true success and a milestone in the development of international co-operation in outer space” [A/6804, annex V].

158. My delegation fully agrees with the Secretary-General who, in evaluating the achievements of space research, stated:

“As the first decade of outer space exploration is about to end, it is clear that many nations of the world are now aware of their stake in this new activity of mankind. It is encouraging to note that there are signs of increased international co-operation in space exploration and use.”⁴

159. In conclusion, permit me to repeat a simple truth known to all of us: the exploration and peaceful uses of outer space, with the passage of years, will offer humanity new and really unlimited vistas in science and technology, in the knowledge of our planet and of ourselves. And this will be achieved if we prepare the proper atmosphere and conditions for it also here on earth.

160. The CHAIRMAN: I appeal to all representatives to confine themselves in their future statements to the subject at present being discussed by the Committee.

161. Mr. THACHER (United States of America): Mr. Chairman, I appreciate your last comment. Before this meeting adjourns my delegation would like to place on record its sincere admiration to the delegation of the Soviet Union for the accomplishments of Venus 4 which appears to have made a most significant achievement in man's investigation of the planet Venus.

The meeting rose at 1 p.m.

⁴ Official Records of the General Assembly, Twenty-Second Session, Supplement No. 1A (A/6701/Add.1), para. 20.