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CONTENTS

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)* (A/6668, A/6804)

GENERAL DEBATE *(continued)*

1. Mr. TSURUOKA (Japan): It is a great pleasure for me, Mr. Chairman, to associate myself with the previous speakers in congratulating you most warmly on your election to the Chairmanship of this very important political Committee. I also wish to congratulate with equal warmth Mr. Tchernouchtchenko and Mr. Örn on their election, respectively, as Vice-Chairman and Rapporteur. Your tasks will be anything but easy, but I wish to pledge to you the active co-operation of the Japanese delegation.

2. It also gives me great pleasure to join other delegations in offering our warmest congratulations to the delegation of the Soviet Union for the remarkably successful accomplishment of the Soviet Venus 4 spaceship flight to that planet. We also offer our warmest congratulations to all the distinguished Soviet scientists, engineers, technicians and others who contributed to the success of this outstanding achievement. We were also happy to hear the representative of the United States make his announcement yesterday afternoon, and warm congratulations are also due to all who have planned and carried out with apparent success the flight to Venus of the United States spacecraft, Mariner 5. I should like to think that comparison of the scientific data resulting from these two great achievements of the Soviet Union and the United States might be considered as a sort of symbol of future international co-operation in space ventures.

3. At the same time, I cannot but express the sincere condolences of the Japanese Government to the families of the brave and gallant astronauts of both the Soviet Union and the United States who lost their lives during the past year in the cause of exploration of outer space.

4. During the ten years that have passed since the launching of the first artificial satellite, Sputnik I, in October 1957, we have witnessed remarkable progress in the exploration and utilization of outer space by mankind. Now, ten years later, we are particularly happy to note that the opening of a new decade in the history of man's conquest of outer space is marked by the coming into force of the Treaty on Principles Governing the Activities of States in the Exploration and Peaceful Uses of Outer Space, including the Moon and Other Celestial Bodies *[General Assembly resolution 2222 (XXI), annex]*. On 10 October 1967, as we know, that Treaty came into force after the required number of instruments of ratification were deposited. I take some pride in mentioning that Japan was among the nations which deposited instruments of ratification on that day.

5. The entry into force of the Outer Space Treaty is a most significant development in the long history of man's conscious efforts to understand his environment and adjust himself to it. The establishment of a legal system for outer space is encouraging proof that the wisdom of mankind is not lagging too far behind the incredibly rapid development of science and technology in recent years. We hope that as many countries as possible, which have not yet done so, particularly all of those countries with the capacity to carry out space activities, will accede to this epoch-making Treaty at an early date.

6. Of course, the Treaty sets forth only the basic principles governing space activities on the basis of which legal questions arising out of such activities should be solved. The intensification of space activities will give rise to many questions requiring prompt if not immediate solution. In this connexion Japan has frequently called attention to the necessity of formulating as soon as possible agreements on liability for damages caused by the launching of objects into outer space and on assistance to and return of astronauts and space vehicles.

7. At the sixth session of the Legal Sub-Committee of the Committee on the Peaceful Uses of Outer Space held in Geneva last summer *[A/6804, annex III]* some progress was made in drafting the text of an agreement on liability. But, to our great regret, no substantial progress was made on an agreement for assistance and return. We earnestly hope that greater efforts will be made to formulate draft agreements at the earliest possible date. Particular attention should be paid to the fact that these agreements will have a very direct and substantial bearing upon the interests of the non-space Powers. Therefore, we believe that they should be fully discussed in the Legal Sub-Committee so that the views of the non-space Powers will be taken into account.

8. The Japanese delegation welcomes the recommendation of the Committee on the Peaceful Uses of Outer Space that

the next session of the Legal Sub-Committee should be convened early next year *[A/6804, para. 15]*. We should like to urge the Member States of the Legal Sub-Committee to make every possible effort to reach agreement at its next session on the texts of the agreements on liability and return.

9. At this relatively early stage of space exploration, a very important event will be the first international conference on outer space, to be held under the auspices of the United Nations in August 1968 *[General Assembly resolutions 2221 (XXI) and 2250 (S-V)]*. May I say that my delegation greatly appreciates the generous offer of the Austrian Government to be the host of the Conference? At the Conference attention will be focused on the practical benefits of space activity, especially for developing countries. It seems quite clear that they will gain much from the science and technology of outer space. Japan is preparing to contribute to the best of its ability to the success of the Conference by sending qualified experts, as well as by presenting scientific papers on our own activities in outer space.

10. I should like to take advantage of this occasion to comment briefly on the space programme of Japan. In August last year our National Space Activity Council, which is an advisory organ to the Prime Minister, submitted to him a recommendation that it would be necessary to carry out, during the period between now and 1970, two basic projects, namely, one concerning scientific satellites and the other concerning experimental satellites aiming at eventual application to practical purposes. In the early stage of our present outer space programme, we shall direct our efforts mainly to research, experiments and limited development projects. Thereafter, we intend to be engaged in full-scale activities in the field of space utilization.

11. As for international co-operation in this field, we have co-operated with the United States in observing PAGEOS, launched by that country, from September 1966 to June of this year. Valuable results were obtained from the comparison of observations made by a Japanese camera with those made by United States equipment. From March to April of this year, the Japanese meteorological observation rockets MT-135 and the American ARCUS were launched at the National Aeronautics and Space Administration (NASA) Wallops Station, Virginia, United States, for comparison and scientific study. The experiments involved were carried out successfully, and much useful data was obtained.

12. As our own space activities and those of other countries expand, the need for international co-operation in the exploration and use of outer space for peaceful purposes and the benefit of all mankind will become more apparent. Japan has the most earnest desire to co-operate with all other countries in this field.

13. In conclusion, our delegation endorses the recommendations of the Committee on the Peaceful Uses of Outer Space.

14. Mr. NAIK (Pakistan): Mr. Chairman, since this is the first time I have taken the floor in this Committee may I, on behalf of my delegation, offer our warm congratulations to you on your election as Chairman of this Committee. We are confident that with your wide experience and eminent qualifications you will guide our deliberations towards meaningful and positive results. We are also happy that in the performance of your task you will be so ably assisted by the distinguished Vice-Chairman and the Rapporteur, both of whom are so well known to the members of this Committee. I also extend to them our congratulations.

15. In the last few days since we began considering item 32, outstanding achievements have been made in man's journey into outer space. The Soviet automatic station Venus 4 has made a successful soft landing—the first in history—on Venus. I take this opportunity of conveying to the representative of the Soviet Union our admiration for this spectacular achievement by the Soviet scientists. Also, I offer our tribute to the representative of the United States on the successful completion of the Mariner 5 probe to Venus.

16. If I venture to say that it is more than a happy coincidence, I have the thought in mind that outer space has now become an extension of the common environment of man. Though the initiation of fresh experiments in this vast new dimension of man's physical surroundings will remain the privilege of only those few nations that command the requisite technological skill and economic resources, our debate here is a demonstration of a tremendously important twofold fact. First, outer space, regardless of how it is defined, is now the concern of every nation. Second, the critical decisions regarding the utilization of its benefits cannot be left only to the scientific community but are to be taken by Governments. It is not by the sheer momentum of scientific activity but by the determination of Governments, responsive to the needs of their peoples and enlisting appropriate scientific advice, that we can establish an order of priorities for how outer space can best be put to practical use. The stage has now been reached for the international community to establish those priorities.

17. In this context a most significant step has been taken with the entry into force on 10 October 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. Pakistan signed the Treaty on 12 September. In our opinion its value will depend on the extent of the unqualified adherence that it commands and the extent to which it is faithfully implemented.

18. International collaboration between countries engaged in space research is a practical necessity. Pakistan has accordingly developed close relations with many of the advanced countries actively engaged in space research. The Pakistan Space and Upper Atmosphere Research Committee (SUPARCO) is the main organization responsible for space research. It has performed a number of useful sounding rocket experiments in collaboration with NASA of the United States, with the British National Committee on Space Research (BNCSR) and, as the representative of France mentioned in his statement *[1498th meeting]*, with the Centre national d'études spatiales (CNES) of France. SUPARCO is also planning co-operative programmes in sounding rockets with other countries. In a similar manner SUPARCO has established ground receiving stations for various satellite applications such as meteorology, ionospheric physics and geodesy.

19. With this international collaboration we in Pakistan have embarked on space research programmes, modest in scope but within our economic capability. These programmes are essentially based on rocket and satellite studies. However, ground-based investigations for ionospheric studies and a photographic satellite tracking station are also planned.

20. Installation of an Automatic Picture Transmission (APT) station at Dacca in East Pakistan is nearly complete. This station will be useful in the early detection of cyclonic storms in the Bay of Bengal. Sonmiani rocket range, operated by SUPARCO, has continued to develop and has new facilities to launch French Centaure and Dragon rockets in addition to those for Nike-Cajun/Apache available since 1962. In addition, a Space and Atmospheric Research Centre is being developed near Karachi.

21. Between 1964 and 1966 SUPARCO has successfully launched thirty-two meteorological sounding rockets.

22. We are looking forward to participating actively in the United Nations Conference on the Peaceful Uses of Outer Space to be held next year in Vienna. The Conference has an important task to fulfil. It has to 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. We are hopeful that the Conference will promote further co-operation in the application of space technology in such fields as biology, medicine, communications, meteorology and navigation, and will also result in establishing programmes for the education and training of specialists in order to assist the non-space Powers, and in particular the developing countries, in the peaceful uses of outer space. We also hope that the deliberations at the Conference will facilitate the early creation and establishment of a United Nations agency for the peaceful uses of outer space.

23. I would now like to make some brief comments on the report of the Committee on the Peaceful Uses of Outer Space. May I associate my delegation with the compliments which the previous speakers have already addressed to the Chairman and members of the Committee on Outer Space for presenting such a useful report to us. Substantial progress towards resolving some of the legal problems of outer space has been achieved since last year. Nevertheless, we would welcome further efforts by the Legal Sub-Committee towards drafting an international agreement on assistance to and return of astronauts and space vehicles. An equally important aspect concerning the liability for damages caused by the launching of objects into space needs further consideration. Likewise, the Legal Sub-Committee should continue to endeavour to reach a precise definition of outer space.

24. The Scientific and Technical Sub-Committee has made constructive recommendations. My delegation fully endorses the view that the information obtained from scientific experiments should be exchanged as widely as possible for the benefit of the world community. We would suggest that scientific co-operation should be channelled to a great extent through the International Council of Scientific Unions' Committee on Space Research, popularly known as COSPAR. Information on space activities should continue to be collected and disseminated by the United Nations. The publication under United Nations sponsorship of scientific and technical manuals on the peaceful exploration of outer space in practical fields such as communications, meteorology, navigation, geodesy and so forth would prove to be highly useful, especially to the developing countries.

25. We should also like to emphasize, as did the representative of the United Arab Republic in his statement yesterday *[1499th meeting]*, that the United Nations should extend its technical assistance especially to the developing countries by granting fellowships, equipment and expert advice in the field of space research.

26. While endorsing these recommendations, I am conscious of the fact that the tasks would place added responsibilities on the Outer Space Affairs Group in the United Nations Secretariat. But in view of the growing importance of the peaceful uses of outer space, it is my delegation's hope that the Outer Space Affairs Group, which at present is inadequately staffed, would be enlarged and would be provided with adequate financial and other resources to meet its increasing obligations.

27. Mr. RUDA (Argentina) *(translated from Spanish)*: Mr. Chairman, before I take up the question before us today, allow me to add my voice to those already heard in the Committee and on behalf of my delegation to congratulate you on your election. At several sessions we have been able to appreciate your abilities and your merits, which guarantee the efficient conduct of our deliberations. Thus we add to our congratulations the earnest hope that you will give us further proof of your recognized talents.

28. We should also like to offer our cordial congratulations to Mr. Tchernouchtchenko on his election as Vice-Chairman, and to Mr. Örn as Rapporteur.

29. The First Committee has decided to start its work at this session by discussing one of the topics where international co-operation has been most concrete and fruitful and where the prospects of new joint efforts are genuinely encouraging.

30. During the past year, the notable successes achieved in the fascinating adventure of man into space have earned the admiration of the whole world. The only sad note is that such outstanding feats have been achieved at the bitter cost of the lives of intrepid astronauts of the United States and the Soviet Union.

31. Today we are still under the spell of the latest exploit of Venus 4 with which the Soviet Union opens up a new chapter in space research. My delegation warmly congratulates the Soviet delegation on this achievement.

32. In the context of the activities of the United Nations evidence of fruitful work is to be found in the report of the Committee on the Peaceful Uses of Outer Space now before us *[A/6804]*. We are convinced that to a large extent the 1967 space successes emanate from the work of that Committee, whose Chairman, Mr. Kurt Waldheim of Austria, has given us eloquent proof of ability and unabated enthusiasm.

33. First of all, I feel I should stress the importance attached by the Argentine delegation to the recent entry into force of the Treaty on Principles governing the Activities of States in the Exploration and Use of Outer Space. Since it places legal as well as technical and scientific means at our disposal, it will ensure that activities in space can take place in a climate of peace and security. My delegation trusts that this Treaty can be rounded off by a treaty on responsibility for damage caused by the launching of objects into outer space and also one on assistance to and the return of astronauts and their space vehicles. In this connexion, we attach particular importance to the work which the Legal Sub-Committee of the Committee on the Peaceful Uses of Outer Space has in hand. We understand that a marked spirit of conciliation has been manifest in that body, and we trust that in the immediate future all parties, but especially the great space Powers, will once again give proof of willingness to reach an understanding. We are confident that the Legal Sub-Committee, under the unsurpassable direction of Mr. Wyzner, will be able to present the fruits of its new deliberations in 1968.

34. With regard to scientific and technical activities, my delegation participated with particular interest in the work of the Sub-Committee on that topic, under the able Chairmanship of Mr. Martin of Australia. It is specifically here that Argentina has carried out investigations as intensively as its resources permitted.

35. Since 1962, Argentina has been engaged on a campaign of meteorological research at the Chamical installations and at other bases likewise belonging to the National Commission for Space Research, in co-operation with the Centre national d'études spatiales (France), NASA (United States), and COSPAR.

36. With the co-operation of the French we have carried out a Centaur rocket launching programme, and the results have been highly satisfactory. Likewise at Chamical we have concluded a programme entitled EXAMETNET (Experimental Interamerican Meteorological Rocket Network), with the co-operation of NASA and the participation of the National Commission for Space Research of Brazil.

37. Our research programmes are not confined to the Chamical base; the programming of scientific experiments has already been started in other areas of the country. The base at Mar Chiquita, close to Mar del Plata on the Atlantic Coast of Argentina, at a latitude of 35° South, will provide the international scientific community with space possibilities.

38. My delegation has supplied the secretariat of the Committee on the Peaceful Uses of Outer Space with periodic information on activities in Argentina, and this is available to scientists of other countries together with a booklet describing the features of the Argentine bases.

39. The competent organs in Argentina are engaged in actitivies and operations designed to advance outer space research done in Argentina's official bodies and privately, by encouraging the exchange of technicians, the award of fellowships, and participation in refresher courses outside the country.

40. Again, with a view to intensifying our programmes and giving further impetus to international scientific co-operation, the National Commission for Space Research has organized a Latin American school on the subject, which will begin operations in January 1968. It will provide courses for post-graduates or advanced students of physics from the Americas, and it will be located at Bariloche, in the south of Argentina. The Government of Argentina will be happy to furnish further information to anyone interested concerning the functioning of the school, which has been set up pursuant to the Assembly's resolutions on international co-operation in the peaceful uses of outer space.

41. It is perhaps also worth mentioning here that my country has already launched rockets of Argentine manufacture from the base at Matienzo, in Argentine Antarctica, where experiments of an almost unique kind have been carried out.

42. My delegation would like at this point to reiterate its appreciation of the sympathetic reception given by the delegations on the Committee on the Peaceful Uses of Outer Space to the request for sponsorship of our rocket-launching installations. My Government will be happy at any time to receive any group of experts that may be sent to visit the installations and to report on their functioning. We feel it would be useful for such a group of experts to visit not only the base close to the city of Mar del Plata but also the installations at Chamical, since both belong to one and the same national organization, and their activities are complementary. This would give a more complete picture of the type of activities being carried out.

43. I want to stress here that the request, the visit and the sponsorship referred to are designed to facilitate friendly scientific collaboration at the international level, in the interests of human progress and welfare. My delegation would not like any detail in the negotiations to stand in the way of our desire to provide friendly States with the opportunity of taking advantage of the peaceful uses of outer space, or to prevent the sponsorship by the United Nations of installations which, taken all together, would attain this objective more fully.

44. In conclusion, I should like to add a word concerning the United Nations Conference on the Exploration and Peaceful Uses of Outer Space, to be held at Vienna in 1968.

45. My delegation is convinced that the outcome of this Conference will redound to the benefit of mankind and to the advantage of States, particularly those most in need of scientific development. I have no doubt that a desire for greater knowledge will be awakened at Vienna, and an awareness of the need to expand technology as related to outer space. Communications, navigation, meteorological services and education are the items in which the practical benefits of the Conference will be most manifest.

46. Argentina will participate in the Vienna Conference in a spirit of greater co-operation and with the conviction that fruitful results will be the outcome. We trust that as many States as possible will participate, thus demonstrating that the sky—that realm of inspiration and abiding mystery—may paradoxically turn out to be the area where inter-

national relations have gone into the orbit of co-operation and harmony.

47. Mr. DE CARVALHO SILOS (Brazil): I should like to begin by extending to you, Mr. Chairman, the Vice-Chairman and the Rapporteur the warm congratulations of my delegation on your unanimous election, which expressed the high regard in which this Committee holds you and the countries you represent. My delegation also wishes to extend its congratulations to the Soviet Union and the United States on their recent successes in the exploration of Venus, which has opened new frontiers for man's knowledge of inter-planetary space.

48. As we meet in this session, the space age has already entered its second decade. The accomplishments of the space Powers in the last ten years represent, in the baffling annals of these difficult times, one of their most inspiring episodes, the happy result of that most rare of combinations, human knowledge and daring. We have been told time and again about the new vistas that the exploration of outer space will open up for the future of human society. In the Committee on Outer Space we have gone a substantial way towards the creation of a legal framework to guide space activities and towards increasing international co-operation on scientific and technological matters. As a member of the Committee on Outer Space, Brazil has given its wholehearted support to all the aspects of United Nations work in this field.

49. Unfortunately we cannot join those voices which have praised the results recently achieved by the last meeting of the Legal Sub-Committee. Practically, no positive progress was made towards an agreement on the question of assistance to and return of astronauts. The discussions held in Geneva even failed to reach the basic and related provisions accorded in the Treaty of 27 January last. The same remarks could apply to the question of liability, in spite of the urgency recommended by the General Assembly with regard to those two agreements.

50. On the other hand, it is difficult not to feel some disappointment when one considers that we have moved very slowly on the road that should lead to the application of the benefits of the space age to the developing nations of the world.

51. As members of the Committee may recall, Brazil has consistently held that the exploration and use of outer space should be carried out for the benefit and in the interest of all countries, irrespective of their degree of economic and scientific development—a principle which was finally embodied in Article I 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, which was signed last January and which has just entered into force. As the President of Brazil pointed out last April:

> "We must understand that the process of our economic development will be carried out in the context of the scientific and technological revolution which was inaugurated by the nuclear and space age. In this new era in which we begin to live, science and technology will increasingly determine the progress and welfare of all nations as well as their very independence."

52. Undoubtedly the Committee on Outer Space can already be proud of several accomplishments in the scientific and technical field. I have especially in mind the activities concerning exchange of information, the encouragement of international programmes such as the World Weather Watch, the establishment of international sounding rocket launching facilities, and the report of the Working Group on a Navigation Services Satellite System.

53. However, the Brazilian delegation feels that more emphasis should be given to the scientific and technological side of the work of the Committee on Outer Space, especially to those scientific and technological aspects that have a direct bearing on the process of economic growth. It would be extremely useful if the Committee on Outer Space could recommend to its Scientific and Technical Sub-Committee the study of some of those aspects, and in particular the use of space technology for surveys of natural resources in developing countries. We also hope that the United Nations Conference on the Exploration and Peaceful Uses of Outer Space will prove to be the beginning of a concerted effort inside the Organization to gear the new space technology to the needs and requirements of the developing countries.

Mr. Tchernouchtchenko (Byelorussian Soviet Socialist Republic), Vice-Chairman, took the Chair.

54. One of the purposes of the Conference is precisely that of examining the means of participation in space activities by non-space nations and of determining the benefits which the developing countries can derive from those activities. In spite of the importance of the bilateral programmes that are already in effect between many Member States, the Brazilian delegation feels that the space Powers should review their programmes in order to provide more opportunities for this kind of co-operation, and in particular for meaningful participation by developing countries. We should also like to endorse the decision of the Committee on Outer Space to appoint a group of scientists to visit the station near Mar del Plata in Argentina in order to advise the Committee on its eligibility for United Nations sponsorship in accordance with the principles approved by the Committee in 1962.[1]

55. Last but not least, my delegation would like to urge all Member States to contribute to the best of their ability to the success of the Vienna Conference, and to express its appreciation for the full co-operation given by the Austrian Government to the preparation of that meeting.

56. Mr. AKWEI (Ghana): May I in this, my first, intervention in the debates of this Committee join in congratulating Mr. Fahmy on his unanimous election as Chairman. It is a source of particular pride and satisfaction to my delegation that he, an illustrious son of Africa, should have been accorded that honour, which he so eminently deserves. May I also congratulate you, Sir, on your election as Vice-Chairman, and the Rapporteur. I have no doubt that under the guidance of such distinguished personalities of the Bureau the work of this Committee will be handled with competence and crowned with positive results.

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1 See *Official Records of the General Assembly, Seventeenth Session, Annexes*, agenda item 27, document A/5181, para. 21.

57. The item before us is a highly technical one which, on the face of it, might seem to be within the competence primarily of the scientifically advanced countries, but I am sure we will all agree that in this ever-shrinking universe of ours all of us, developed and developing countries alike, have a complementary role to play in advancing the cause of science in launching into what is still the unknown.

58. It is ten years since man first broke loose from his earthly environment and launched into space. Since then, significant progress has been made. The Luna projects of the Soviet Union and the Apollo and Surveyor projects of the United States have dramatized the exciting possibilities and potentialities of outer space. Only two days ago we were witnesses to yet another spectacular achievement in space, namely the landing of a Soviet craft on Venus. My delegation warmly congratulates the Soviet Union on that remarkable feat. But one dangerous aspect of this new conquest of space by man is the tendency to engage in useless competition and vain attempts to outdo each other for selfish and parochial national prestige. It is well known that the space venture is an expensive one and no nation, however wealthy, can devote as much resources as would be necessary to achieve the quickest results. There is no doubt that more significant progress in this field could be achieved if resources and expertise were pooled in one joint international endeavour.

Mr. Fahmy (United Arab Republic) resumed the Chair.

59. In his statement to this Committee on Tuesday *[1497th meeting]* the Soviet representative made reference to the impediments which, in his view, stood in the way of active co-operation between the USSR and the United States in space programmes. He referred particularly to the deepening mistrust between States and their consequent reluctance to share any knowledge which may be used to military advantage. In the opinion of my delegation this is a point which cannot and should not be glossed over. It should rather urge us all on to redouble our efforts to reduce political tensions here on earth before thinking of peace in all its aspects. Indeed, it seems to us that no genuine co-operation in outer space will ever be feasible unless there is political harmony and elimination of undue suspicion here on earth.

60. In this regard, probably general and complete disarmament must precede any meaningful and genuine co-operation in outer space. The Secretary-General, in his statement on the occasion of the adoption in December 1966 of General Assembly resolution 2222 (XXI) and its annex, the Treaty on outer space, put this pointedly:

> "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.]*

61. My delegation notes with satisfaction the recent conference of experts from socialist countries on co-operation and the peaceful exploration and use of outer space held in Moscow in April this year. Welcome as this sharing of scientific knowledge of outer space between countries is to my delegation, we would have wished that such a conference were not limited to the socialist countries. We look forward to the day when the socialist and non-socialist countries join together in sharing the benefits of their knowledge for the good of all humanity.

62. We have before us the report of the Committee on the Peaceful Uses of Outer Space. I should like to congratulate the Committee on the very useful work it has done in the light of the odds facing it. My delegation would like to urge that, within the limits of present scientific possibilities, every effort should be made to arrive at a definition of outer space, because it seems to us that no meaningful discussion or agreement can be reached on outer space when various people give various interpretations of what outer space signifies. We would also urge that efforts be redoubled to reach agreement on some broadly acceptable legal principles to regular activities in outer space.

63. While we congratulate the Scientific and Technical Sub-Committee on its forthright recommendation to Member States to give high priority to space activities embraced by the World Weather Watch, we cannot but express regret that the Legal Sub-Committee has still not been able to come to any agreement regarding liability and what assistance could be extended to astronauts and space vehicles in distress or forced to return to earth by mistake or accident.

64. I said earlier that all countries, large or small, developed or develcping, have a vested interest in the exploration of outer space. The scientific knowledge gained from these efforts and the use to which it is put can be and should be of benefit to all nations. The possibilities for expanding agricultural knowledge and general education through the use of the much cheaper satellite television circuit, particularly for the developing countries, appear to be immense and limitless. Ghana is already co-operating actively with the United States and the International Telecommunication Union in exploring the possibilities of extension of telephone communications by way of artificial satellites. We are also following developments by the World Meteorological Organization in the field of more accurate weather forecasting through the use of artificial satellites.

65. We look forward to the forthcoming Conference on Outer Space scheduled to take place in Vienna and wish to record our appreciation to the Government of Austria for providing facilities for this Conference which undoubtedly will lead us a step further in our effort to achieve international co-operation in space and a more general sharing of the benefits of space research.

66. The Government of Ghana was among the first signatories of the Treaty on the Peaceful Uses of Outer Space which came into force on 10 October this year. We have also ratified it. Even though we are not yet a space Power we readily signed the Treaty and ratified it in the firm conviction that we, and indeed all mankind, stand to gain immeasurably from preventing the turning of outer space into yet another arena of military rivalry. There were some who thought that the conclusion of any treaty on space was far from possible in the present circumstances. They have been proved wrong. My delegation believes, therefore, that given the will and the keen awareness that we all stand to gain from peaceful co-operation in outer space it is possible, and indeed practicable, to achieve such co-operation.

67. We can only appeal fervently to the Powers which have been able now to reach into space to redouble their efforts to give top priority to genuine co-operation in space and to work for the achievement of such co-operation. We all have much to lose if we fail and everything to gain if we succeed in co-operating with each other in the peaceful exploration of outer space.

68. Mr. SEGERS (Belgium) *(translated from French)*: The Belgian delegation is happy to be able to endorse the expressions of confidence and appreciation that preceding speakers have addressed to you, Mr. Chairman, and to your fellow officers.

69. When considering item 32 of the agenda, it is tempting to review the main achievements in the field of space exploration over the past year. The exploits of the space Powers are proceeding apace and are becoming daily more spectacular. The list of successes achieved since the first sputnik encircled the globe on 4 October 1957 is truly a prodigious one, if we consider the technical achievements of exploration and observation, scientific research and experiment.

70. No more than two days ago, we learnt of the soft landing of a Soviet space probe on the planet Venus, a sensational feat, that will enable us to collect valuable information about the planet and that seems likely to open a new phase in the conquest of the universe.

71. We shall also doubtless receive other interesting information from the American Mariner space probe, which has successfully accomplished the mission entrusted to it.

72. The Belgian delegation takes pleasure in extending its heartiest congratulations to the scientists of the Soviet Union and the United States, whose inventive genius and untiring efforts have made those truly impressive feats possible.

73. Let us further note that opportunities for the practical application of space techniques to human well-being are crystallizing and increasing daily. Those techniques are already being used to improve meteorological forecasting and to broadcast educational programmes in areas where communications are difficult. In another connexion, the Working Group appointed by the Committee on the Peaceful Uses of Outer Space noted in its report *[A/6804, annex IV]* that although it appears that there does not at present exist an agreed requirement for a navigation services satellite system, a requirement is likely to arise in the relatively near future.

74. The United Nations is principally interested in those practical uses in the fields of meteorology and communications, navigation and geodesy, and it was in order to take stock of those activities that the General Assembly decided to organize an International Conference at Vienna in 1968 whose great importance and interest has been stressed by the small States, and especially by the developing countries.

75. Mr. Chairman, after recalling that the first decade of the space age had gone by, you went on to say that the effort that must be made over the next ten years to adopt timely measures to cope with the many political and legal aspects of space exploration is an important task which must be carried out by the General Assembly and the Committee on the Peaceful Uses of Outer Space.

76. The agenda item now calls upon us to consider the report of the latter body.

77. This must be done in the light of resolutions adopted by the Assembly at its twenty-first session, and it implies a comparison between the programme as established by the Committee at its spring session and the progress achieved by the time the Committee adopted its report at its autumn session. The report embodies the results of long working sessions within several sub-committees and groups of experts; the Belgian delegation gives full credit to the efforts made to solve extremely complex problems and to work out compromises where conflicting interests were involved. We are pleased to note that some progress has been made and that, within a limited sphere, a provisional agreement has been outlined.

78. We can none the less appreciate why the dedicated Chairman of the Outer Space Committee, Mr. Waldheim, could not help but betray some disappointment in his statement *[1497th meeting]*. Comparison of the Committee's goals and the achievements of its two Sub-Committees shows that there is a gap between them that must be bridged. First, in the legal sphere, several delegations–my own among them–were gratified last year by the conclusion of a Treaty governing the exploration and use of outer space which became effective on 10 October 1967. At the same time, the delegations in question stressed the urgent need to draw up separate agreements establishing precise rules of law to complement the Treaty's general provisions. The Belgian delegation, for example, several times called for the formulation of new, conventional rules for the implementation of the space Treaty. Meanwhile, we feel that reiterating our position in that connexion may serve some purpose.

79. It is reasonable that the space Treaty should contain provisions binding the signatories to assist–as is normal–astronauts who may be in distress or have to make a forced landing. Actually, if an astronaut encountered problems during his flight, countries in a position to assist him would make an effort to do so, regardless of any treaty obligation. They would be moved to do so by the purely humanitarian considerations affecting every member of the international community. The great space Powers nevertheless attach the utmost importance to the establishment of more precise treaty regulations calculated to promote the practical application of the principles governing assistance in the future. We understand that concern, but at the same time, we feel that the sphere of liability cannot be divorced from those same humanitarian considerations and that, on that point as well, the Treaty on Outer Space should be supplemented by a precise and detailed formulation of the criteria and conditions that will ensure fair compensation to innocent victims of space accidents.

80. Of course, we are not unaware of the difficulties presented by the problem of liability. Preparation of a multilateral treaty under United Nations auspices is always a difficult task; it entails bringing together in a single instrument of positive law the varied and often divergent

ideas of many countries; in addition, in the field of space law, there are special difficulties arising from our limited experience of the problems to be solved, for as you stated, Mr. Chairman, the space age began barely ten years ago. In the interim, nevertheless, real problems calling for legal solutions are arising even before the United Nations has drawn up legal principles to govern their solution.

81. It is true, we readily admit, that up until now no spectacular accident has occurred following the launching of space vehicles; however, parts of space vehicles have already fallen in various places in the world, accidents have occurred in space, and as a matter of fact, some damage has already been caused to the earth's surface.

82. These things are occurring at a time when an increasing number of countries are introducing into their legal systems an ever-growing number of rules of laws designed to protect innocent victims of hazardous activities. Normally, the protection is covered by compulsory insurance imposed on those whose activity is a potential source of danger. As an illustration I need only mention road traffic legislation.

83. Taking those notable precedents as its model, the Belgian delegation submitted to the Committee on the Peaceful Uses of Outer Space several draft conventions *[A/6804, annex III, appendix II]* which has as their central theme the need to provide the innocent victims of space accidents with proper compensation. At the present stage, the Legal Sub-Committee has already recognized that a system of absolute liability must be set up; however, that is clearly only a beginning, a preliminary basis on which a body of rules of law must be constructed as quickly as possible.

84. With regard to the separate agreements designed to supplement the Treaty on Outer Space, the Belgian delegation would like to mention yet another matter which it feels to be no less important. It has often been said that the keystone of the Treaty on Outer Space is co-operation among States. Some countries have recently begun seeking and organizing co-operation in space matters amongst themselves by means of collective agreements within the framework of regional organizations. For some States, owing to the smallness of their territory and the scantiness of their resources, such co-operation is imperative if those States are to play an active part in the exploration and peaceful use of outer space. Up until now, the achievements to their credit are of course much less spectacular than those of the great space Powers. Nevertheless, everything suggests that as such co-operation is organized more systematically, the results will be progressively more valuable and significant. Furthermore, the activities involved are by their very nature just as much in keeping with the goals of the Treaty on Outer Space as are the feats of the great space Powers. Consequently, at the legal level, international organizations for space co-operation are justified in demanding recognition of their importance and a guarantee of protection of their interests. In other words, in any new agreement international organizations must expressly be given a status that is fully in keeping with their goals and with the contributions they are making or are likely to make to man's effort in outer space.

85. The Scientific and Technical Sub-Committee, too, had a very heavy agenda. If we read the Sub-Committee's report *[ibid., annex II]*, it is difficult to escape the impression that its replies to the questionnaire *[ibid., annex III, para. 18]* are not as complete as one might have wished. From the verbatim record, in particular, it is evident that the Sub-Committee's discussion of the definition of outer space was in fact brief and that the Sub-Committee did not make use of the working documents prepared specially by the United Nations Secretariat for use in considering that question. It can hardly be maintained that the definition of outer space, whatever the criteria adopted for that purpose, is not both an urgent and a necessary task. Now that the Treaty on Outer Space has come into force, its implementation requires that an attempt be made to define, in so far as this is possible at any rate, the precise scope of the concepts it employs.

86. In placing before the First Committee the suggestions and remarks that it feels the report calls for, the Belgian delegation considers that it is fulfilling—honestly but, I admit, modestly—the role that has fallen to it in its dual capacity as a member of the Outer Space Committee and as a participant in the work of the First Committee. Nevertheless, these remarks in no way lessen the feeling of gratitude my delegation feels towards those whose work has already enabled us to make meaningful progress along the path that will eventually lead to the harmonious co-operation of the entire international community, and in a realm which challenges man's genius to reveal the full extent of its amazing capabilities. However, precisely because of the dizzy pace of development of this new branch of science and technology it is essential to press on stubbornly with the drafting of the rules that must guide relations between individuals and groups in their endeavours to achieve the peaceful conquest of space. That is the task to which the Outer Space Committee must continue to devote fresh efforts, and it is my delegation's hope that it will achieve its goal.

87. Mr. TCHERNOUCHTCHENKO (Byelorussian Soviet Socialist Republic) *(translated from Russian)*: The representatives of various countries who have spoken before me have already noted the historic significance of man's bold penetration into outer space, and the active study and exploration of space for peaceful purposes. Although only ten years have elapsed since the launching by the Soviet Union of the first artificial earth satellite, in this relatively brief period of time a tremendous amount of work has been done in the fields of science and technology relating to space problems.

88. The Soviet Union, which this year is celebrating the fiftieth anniversary of the great October Socialist Revolution, has been a pioneer in the space age. This Power, where socialism triumphed was the first to penetrate outer space, and the successes it has achieved have determined the various stages in the exploration and peaceful uses of outer space, from the launching of the first artificial satellite on 4 October 1957 to the first manned flight around the earth, and from the space-walk performed by a Soviet astronaut to the first soft-landing of an automatic station on the moon. All this has been the result of the heroic and peaceful efforts of scientists, workers and engineers of the peoples of the multi-national Soviet Union. And now we

have witnessed a new and significant achievement of Soviet science and technology.

89. A Soviet spaceship has for the second time reached the planet Venus. But this time, Venus 4 made a soft landing on the surface of the planet and transmitted by radio valuable scientific information, which has enriched our knowledge of space and also of this "star of the early morn". The human mind is outstripping time and looking far ahead, working on new scientific and technical achievements. It is with full justification that the Soviet astronaut, Leonov declared:

"The first ten years of the space era have enriched us with knowledge and experience. Today we can say with conviction that the planets will be reached and the space surrounding the sun will be explored in our time. The entry of man into the outer reaches of space is as inevitable as was the era of the great geographical discoveries in its time."

90. The successes achieved by the Soviet Union in the exploration of outer space are only natural. They stem from the bases of the economic and social systems of the Soviet State and are the result of the great pace of development of science and technology in all the Republics of the Union, clearly demonstrating the great advantages and constructive possibilities of the Socialist system. Before the Revolution, Czarist Russia was ten times weaker in its technical equipment than the most developed capitalist country in the world. The Soviet State, after only forty years of Soviet rule, became the first space Power and fulfilled the testament of the father of astronauts, Tsiolkovsky, who said:

"I transmit all my work on aviation, rocket flights and interplanetary communications to the Bolshevik Party and to the Soviet Government, the genuine leaders in the progress of human culture. I am convinced that they will successfully conclude this work."

91. It is worth recalling that ten years ago, when the first earth satellite was launched, scientists of world renown spoke of this event as a turning point in the history of civilization. Thus, recently describing this event, the Technical Director of the French National Centre of Space Research, Pierre Contex, declared:

"The launching of the Soviet artificial earth satellite in October 1957 was a most important achievement of the human mind. It has become a turning point in the exploration of outer space. With the launching of the first artificial earth satellite, the era of space exploration or, more simply, the space era, has begun. That is why this event will always remain fresh in the mind of man."

92. In our opinion the General Assembly of the United Nations, at its twenty-second session, must, in its resolution on outer space, note this anniversary which opened up prospects of the wider uses of outer space in the interests of the whole of mankind. The exploration and conquest of space are acquiring an ever more practical character and creating new possibilities for the further development of productive forces and for the solution of fundamental problems on this earth. Much has already been said about that. However, I should like to draw attention to the prospects for the development of scientific methods of weather forecasting which have been used by many countries individually, and also collectively by the World Meteorological Organization, of which the Byelorussian SSR is a member. I should like to mention too the importance of the practical conclusions which mankind will draw from this research. Scientists affirm that, thanks to space technology and to the perfecting of mathematical methods, it will be possible to forecast with confidence, years in advance, meteorological conditions, forecast years of drought or excessive humidity, and in time even actively influence climatic conditions in certain places. Economists have calculated that reliable weather forecasting for five days ahead will save thousands of millions of dollars a year. The timely forecasting of a year of drought will effect economies considerably in excess of the expense incurred in the development of space technology.

93. All this goes to show how great the influence of space research on the development of civilization will be and how important are the problems of scientific, technical and political co-operation of all States in this connexion.

94. We must welcome the statement made here that the Soviet Union favours the development of co-operation between States in the field of space exploration and research, on the basis of true equality and of respect for the interests of all parties in the name of peace on our planet. We support the appeals of other delegations for the development of such co-operation. At the same time, the Byelorussian delegation also considers that the development of co-operation in the field of space research is undoubtedly hampered by the race in rocket and nuclear weapons, for the development of which the imperialist Powers are to blame, by the tension engendered in international relations as a result of the aggression of the United States in Viet-Nam and of the aggression of Israel, supported by some Western Powers, against the Arab States in the Middle East, and by the actitivies of the forces of militarism and neo-colonialism in other parts of the world. International co-operation for the peaceful uses of outer space is an objective need, and this is reflected in the activities undertaken within the purview of the United Nations. The United Nations is already playing a specific role in co-ordinating the forms and the direction of international scientific and technical co-operation for the exploration and peaceful uses of outer space, and in the solution of problems linked with international law governing the relations between States in space.

95. The Byelorussian SSR was one of the first States Members of the United Nations to sign the Treaty on Principles Governing the Activities of States in the Exploration and Peaceful Uses of Outer Space, including the Moon and Other Celestial Bodies. On signing the Treaty, the Minister of Foreign Affairs of the Byelorussian SSR declared:

"The peaceful conquest of space opens up vast prospects for mankind. Therefore it is essential that the tremendous forces governed by the inventiveness of the human mind should be used only in the interests of mankind and for the strengthening of peace. Outer space must not become the source of disputes. In it there must be peaceful and equal co-operation."

96. The Presidium of the Supreme Soviet of the Byelorussian SSR has already ratified the Treaty on Principles

Governing the Activities of States in the Exploration and Peaceful Uses of Outer Space, including the Moon and Other Celestial Bodies. This Treaty, which has already come into force, is extremely important for the exclusively peaceful uses of outer space. We ask all States to adhere to this Treaty and thus to ensure complete and effective co-operation.

97. The prohibition of nuclear weapons tests in outer space is extremely important in connexion with the peaceful uses of outer space. The Byelorussian delegation, like many others, approves of the report of the Committee on the Peaceful Uses of Outer Space and considers that the recommendations made in it on the exchange of information, the promotion of international programmes, international launching sites for sounding rockets and some other programmes can be approved by the General Assembly.

98. In the field of international law the Committee on the Peaceful Uses of Outer Space is faced with the important task of concluding its work on an agreement on assistance to astronauts and on liability for damage caused by the launching of objects into outer space.

99. The Byelorussian Republic attaches great importance to the United Nations Conference on the Exploration and Peaceful Uses of Outer Space to be held in 1968. Active preparations are being made for the Conference in the Republic. Our delegation would like it to mark an important stage in the strengthening and expansion of international co-operation in the peaceful uses of outer space.

100. The further study and conquest of space will open up new possibilities for mankind, and it is the duty of the United Nations to co-operate in every way so that those possibilities will be used in the interests of all peoples and of peace and progress on earth.

101. Mr. TARABANOV (Bulgaria) *(translated from French)*: The discussion of the problem of international co-operation in the exploration and peaceful uses of outer space takes on a special significance this year, as the first decade of the space age draws to a close.

102. The launching of the first man-made earth satellite ten years ago by the Soviet Union marked the beginning of mankind's historic conquests in an unexplored realm that is opening up new vistas for the human race.

103. That first resounding feat of prodigious significance was followed by a long series of remarkable achievements by Soviet science and technology in the exploration of outer space; the latest of these–the soft landing of the Soviet unmanned station on the planet Venus–marks a new stage in the evolution of space science at the threshold of man's second decade of activity in cosmic space. Mankind has for the first time received data concerning Venus and its surrounding atmosphere direct from its surface by means of man-made devices.

104. The country that proclaimed the creation of a new socio-political system fifty years ago and thereby inaugurated a new era in man's history has also been the first to place an artificial satellite in orbit around the earth and to send men into outer space; the first to reach the moon and to effect a soft landing upon it, and now the first to reach and accomplish such a landing on the surface of Venus. Does not all that represent a sign of the times, a corrobation of the fact that when a people frees itself from the bonds of servitude and creates for itself a political régime in tune with historical evolution, it is capable of releasing new forces and new energies, and placing outstanding achievements at the disposal of all mankind?

105. On the eve of the fiftieth anniversary of the socialist October Revolution, the delegation of the People's Republic of Bulgaria would like to extend its most cordial congratulations to the Soviet Union delegation and, through it, to the Soviet Government and peoples on the successes and the magnificent feats achieved by Soviet science and technology.

106. The group of States actively engaged in the exploration and peaceful use of outer space continued to grow steadily. The past year has likewise been notable for new achievements in the various areas of exploration and peaceful use of outer space by the Soviet Union, the United States and France, as well as by an ever-increasing number of other countries. International co-operation in that area continues to widen and to yield highly satisfactory results.

107. The Organization's role as promoter and principal architect of that co-operation is becoming increasingly important, and of course, it takes on a wide variety of forms.

108. The People's Republic of Bulgaria has itself taken a very active role in the preparation of a joint programme with other socialist countries, including agreements on various aspects of exploration and peaceful uses of outer space; we are hopeful that this programme will in the near future yield positive results by way of co-operation among those countries.

109. But, for the moment co-operation in the exploration and use of outer space is taking place mainly within the framework and under the auspices of the United Nations.

110. The Treaty on the Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, which came into force a short time ago, is one of the principal demonstrations of that fact. The treaty forms a sound basis for the further development of international co-operation aimed at placing outer space at the service of mankind and of world peace.

111. Other results, more modest, perhaps, but nevertheless encouraging, have also been achieved. The report of the Committee on the Peaceful Uses of Outer Space which is currently under discussion gives a fairly complete picture of the achievements and the unsolved problems, the proposals and the prospects for United Nations action in that direction.

112. The delegation of the People's Republic of Bulgaria supports the general outlines of the recommendations contained in the body of that report and in annex II. We

believe that the international World Weather Watch programme, prepared and carried out with the active collaboration of the World Meteorological Organization, deserves our full support. The unhindered implementation and continued expansion of the programme will be strictly scientific in scope, but it will at the same time have considerable practical significance for the creation of a world system of meteorological observation capable of yielding highly important practical and economic results for all countries.

113. The delegation of the People's Republic of Bulgaria also supports the recommendations of the Scientific and Technical Sub-Committee on international satellite communications programmes. If these programmes are successful, the results they cannot fail to produce will serve as a basis and starting-point for new initiatives in that field, as well as for the accumulation of experience readily accessible to all countries.

114. Painstaking and patient work will undoubtedly be needed to arrive at a definition of outer space and the use of outer space and the celestial bodies, given the various implications of space communications included in the programme of the Committee on the Peaceful Uses of Outer Space pursuant to General Assembly resolution 2222 (XXI).

115. The exploration and peaceful uses of outer space call for efforts to ensure the progressive development and codification of international law in that relatively new field of human activity.

116. The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies not only represents the first successful attempt at codification in that area; it is also a promising beginning to what we hope will be completed soon, namely the codification of provisions governing the rescue of astronauts in case of damage or accident, as well as the liability for damages caused by objects launched into outer space.

117. It is worth while noting that upon resuming its work, the Legal Sub-Committee arrived at a compromise with regard to certain important provisions of the draft agreement on assistance to astronauts and space vehicles, especially draft articles 1 and 2.

118. There has also been evidence of clarification making for agreement on some other items. Nevertheless, the Legal Sub-Committee still has a good deal of work to do in formulating the draft agreement as a whole.

119. With regard to the second draft agreement, dealing with liability for damages caused by the launching of objects into outer space, it should also be noted that a consensus has been reached on several problems, although agreement has still not been reached on some provisions.

120. Bearing in mind the urgency of the work on the codification of international law in regard to outer space, the delegation of the People's Republic of Bulgaria supports the proposal to convene the Legal Sub-Committee during the first half of next year.

121. All these results have been achieved in a climate of United Nations collaboration and co-operation. We would have hoped that they might encourage the First Committee and the Members of the United Nations to attempt collaboration in other fields, for example, the very important field of disarmament. If we succeeded in initiating collaboration and in obtaining genuine results in the field of disarmament, collaboration and co-operation in the field of science and the exploration of outer space would be made a great deal easier.

122. But such collaboration in outer space cannot make headway because certain parallel effects produced by space science have a strong influence on the problems of disarmament, and especially weapons. Under these circumstances, we greatly regret the lack of success, notwithstanding the statements of good will made by certain parties.

123. The first international Conference on outer space is scheduled to take place next year, and I am convinced that it will constitute a step forward in international co-operation in space matters. I should like to take this opportunity to express our appreciation and gratitude to the Australian Government for the valuable contribution it is making to the preparations for the Conference. We are hopeful that, with the joint endeavours of all the countries concerned, the Conference will be a great success and will promote international co-operation in the exploration and peaceful uses of outer space.

124. The CHAIRMAN: The representative of Austria, the Chairman of the Committee on the Peaceful Uses of Outer Space, has expressed a desire to make a statement.

125. Mr. WALDHEIM (Austria), Chairman of the Committee on the Peaceful Uses of Outer Space: Since I spoke in the opening stage of this debate a few days ago, we have witnessed another major milestone in the astonishing series of achievements that have marked the first ten years of space exploration. As Chairman of the Committee on the Peaceful Uses of Outer Space, and of course as the representative of my country, I wish to express my warmest congratulations to the delegation of the Soviet Union on the historic soft landing on Venus accomplished by the Venus 4 spacecraft. At the same time, I wish to congratulate the United States on the success of the Mariner 5 mission to the region of Venus. These feats are more than dazzling technological achievements which even the layman can appreciate. They are also bringing us invaluable information about the solar system which will be eagerly received by the international scientific community and will, I trust, provide a spur to further co-operative endeavour in this field.

The meeting rose at 12.40 p.m.

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