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COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE

VERBATIM RECORD OF THE TWENTY-SIXTH MEETING

Held at Headquarters, New York  
on Tuesday, 27 October 1964, at 10.30 a.m.

Chairman:

Mr. MATSCH

(Austria)

1. Adoption of the agenda
2. Opening statement by the Chairman
3. General debate

64-26863

## ADOPTION OF THE AGENDA

The CHAIRMAN: Members have received the provisional agenda appearing in document A/AC.105/L.15. In connexion with its item 6 I have to advise the Committee that the document mentioned therein (A/AC.105/21) will not be available until tomorrow or the day after, because the Legal Sub-Committee concluded its session only on Friday evening. There is a rather lengthy report involved, and the Secretariat was unable to produce it for today's meeting, but it will, as I say, be available tomorrow or, at the latest, on Thursday.

If I hear no comment, I shall take it that the Committee accepts the provisional agenda.

The agenda was adopted.

The CHAIRMAN: A number of specialized agencies -- ITU, ICAO, WMO, WHO, IAEA, UNESCO -- have expressed a wish to participate in our work.

In accordance with the Committee's practice at previous sessions, I shall, if I hear no objection, invite the representatives of these agencies to take places at the Committee's table, as observers. Again, in accordance with our previous practice, I suggest that we invite the representative of COSPAR to participate as an observer.

At the invitation of the Chairman, the representatives of IAEA, ICAO, ITU, UNESCO, WHO, WMO and COSPAR took places at the Committee table.

## OPENING STATEMENT BY THE CHAIRMAN

The CHAIRMAN: In opening the sixth session of our Committee, I should like to recall the agreement reached at our first session in March 1962, an agreement observed at subsequent sessions, that it would be the aim of all members of the Committee to conduct the Committee's work in such a way that it would be able to reach agreement in its work without the need to vote. I trust that the members of the Committee will agree to continue this procedure at our present session.

Since our Committee's last meeting in November 1963, the organization of the Committee's and Sub-Committees' programme of work during the present year in the light of the General Assembly's resolutions 1962 (XVIII) and 1963 (XVIII) was agreed upon through informal consultations conducted by the officers of the Committee with all other members of the Committee in February and May, and reported in documents A/AC.105/16 and addendum 1.

In the past year, the Committee has continued to receive information from the Union of Soviet Socialist Republics and the United States concerning objects launched into orbit or beyond for registration by the Secretary-General as provided for in resolution 1721 (XVI) of the General Assembly. The members of the Committee have received the report of the Scientific and Technical Sub-Committee, document A/AC.105/20 and Add.1, the report of the scientific group on the visit to the launching site at Thumba, document A/AC.105/17, the third report of the International Telecommunication Union, document A/AC.105/L.11, and the report of the World Meteorological Organization, document A/AC.105/L.10/Rev.1, and, finally, the report of the Legal Sub-Committee, document A/AC.105/19 and A/AC.105/21.

The Committee also has before it three working papers prepared by the Secretariat, a summary of national and co-operative international space programmes, a report on the space activities and resources of the United Nations, the specialized agencies and other competent bodies, and a list of sources of bibliographies and abstracting services covering scientific and technical publications in space-related areas. At the request of the Scientific and Technical Sub-Committee, the papers have been up-dated and corrected where necessary, and submitted for consideration by the Committee.

(The Chairman)

The report of the Scientific and Technical Sub-Committee contains recommendations within the terms of reference established by the resolutions of the General Assembly, and refers to measures to be taken to improve international co-operation and co-ordination in the peaceful exploration and uses of outer space. These recommendations cover five general topics.

Firstly, with regard to exchange of information, the Secretary-General would continue to receive information voluntarily submitted by international organizations concerning the scientific and technical aspects of space exploration, and then compile such information in order and in a suitable form to make it widely available. In order to familiarize all United Nations Members with the programmes in the application and use of outer space and with avenues open to Members for participation in this field, Member States would be invited to continue to submit voluntarily annual information on outer space activities, including information on programmes of international co-operation. This information on national and international co-operative space activities would be published in a bi-annual review and in a summary which would provide a consolidated, global picture of international co-operation. Member States conducting space activities would be requested to submit voluntarily literature on space research and technology for inclusion in an outer space library of the Outer Space Affairs Group of the Secretariat. Member States would be periodically informed of new acquisitions.

As recommended by the Scientific and Technical Sub-Committee, the Secretary-General would be invited to consider what material exists or may be needed to ensure popular understanding of the purposes and potentialities of space activities, and the means by which new material may be made available possibly by pamphlets or a handbook, and to report his suggestions to the Sub-Committee.

The Secretary-General would also be requested to consider means by which the publication and distribution of technical manuals prepared by COSPAR might be encouraged.

(The Chairman)

The Sub-Committee also draws attention to the fact that outer space research data obtained by rockets and satellites are available to scientists of Member States through the World Data Centres in Moscow, Washington and Slough in England. The Secretary-General would also compile information on space conferences and symposia open to scientists of Member States and would inform Member States of such opportunities.

Finally, the Sub-Committee recommended that consideration be given to the usefulness of organizing an international conference in 1967 on the exploration and peaceful uses of outer space.

Secondly, as regards encouragement of international programmes, in the field of space communication, the Sub-Committee, under the able chairmanship of Dr. Martyn of Australia, recalled the view stated in our Committee's report to the eighteenth session of the General Assembly that international space communications should be available for the use of all countries on a global and non-discriminatory basis and the recommendation that all Member States take appropriate steps, using to the fullest extent the possibilities offered by the technical co-operation programmes, to develop and extend terrestrial communication systems in various parts of the world so that all Member States, regardless of the level of their economic, scientific and technological development, will be able to benefit from international space communications.

The Third Progress report of ITU describes the further concrete steps that have been taken by ITU in this field. The Extraordinary Administrative Radio Conference in October 1965 allocated radio frequency bands for the purpose of communication satellites, meteorological satellites, telemetry and tracking, navigation satellites, radio astronomy, space research and space vehicles in distress and for aeronautical purposes. The Plan Committee of ITU has given attention to a preliminary survey of problems arising from world communication satellites with special relevance to short-term, until 1968, and to long-term global traffic, up to 1975. The ITU Administrative Council has been invited to take steps to help the developing countries in order that these countries may participate effectively in international space communication systems and integrate these systems with their national telecommunication networks.

(The Chairman)

In the field of space meteorology emphasis has continued to be placed on the need to establish a world weather watch, to develop meteorological observations from ground stations and to undertake research using information from meteorological satellites and conventional meteorological observations. Member States have been urged to facilitate the development of extensive international co-operation in the establishment of the World Weather Watch, with particular emphasis on improving the world weather watch system and on the need for improved facilities for the exchange of data from meteorological satellites and conventional meteorological observations.

The progress Report of WMO draws attention to the fact that information received from weather satellites continued to be made available under arrangements notified by WMO to all countries of the world.

Particularly satisfactory is the assurance given in the WMO Report that since the fourth WMO Congress in 1963 good progress has been made towards implementation of a phased programme of action for establishing the concept of World Weather Watch as an ultimate world weather service and of related research projects.

The Sub-Committee also mentions the development of several programmes of scientific and technical interest in the peaceful uses of outer space, including the International Year of the Quiet Sun, the International Indian Ocean Expedition and the World Magnetic Survey and others.

The preliminary agreement reached between Soviet and American scientists in May 1964 to begin work on a joint publication of a review of achievements in and prospects for the development of space biology and medicine was noted with satisfaction. The Sub-Committee notes that arrangements are being made to obtain the advice of scientists of other countries on these subjects.

The attention of Member States is called to the increasing measure of bilateral and multilateral co-operation in space projects which exemplify a way in which Member States, prepared to share in the responsibilities involved, may join effectively in specific international space programmes. These co-operative projects offer increasing opportunities for Member States to acquire useful information and training for the furtherance of their interests not only in international co-operation, but also in the development of space science and technology itself.

(The Chairman)

Thirdly, as regards education and training, the value of international co-operation in this field has been affirmed in past resolutions of the General Assembly. Many Member States have supplied information on education and training facilities in basic subjects related to peaceful uses of outer space and on the availability of scholarships and training opportunities. The information furnished is reproduced in Addendum 1 to the Sub-Committee's report. Similar compilations by the Secretariat are to be disseminated on a continuing basis. Member States are invited to make known their specific interests and needs to train their nationals.

Fourthly, concerning international sounding rocket launching facilities, in accordance with General Assembly Resolution 1963 (XVIII) a scientific group visited the Thumba equatorial sounding rocket launching site and recommended in its report (A/AC.105/17) that United Nations sponsorship be granted to India for this site in conformity with the basic principles endorsed by the General Assembly in Resolution 1802 (XVII). The Sub-Committee recommends that the General Assembly endorse the recommendation that United Nations sponsorship be given to India for continuing operation of the Thumba site and that due attention be paid by the United Nations to a request from the host State for assistance to increase the utility of the site as a place for international collaboration in sounding rocket experiments.

I should like also to draw the attention of this Committee to the additional detailed information furnished by the Italian representative in the Sub-Committee on the San Marco mobile sea-based launching platform as an interesting example of how a mobile range of the San Marco type can stimulate peaceful scientific relations with developing countries. Information on this co-operation between Italy and Kenya was circulated as document A/AC.105/18.

Fifthly, as regards potentially harmful effects of space experiments, on the basis of a COSPAR report Member States proposing to carry out experiments in outer space should give full consideration to the problem of possible interference with other peaceful uses of outer space as well as of possible harmful changes in the natural environment caused by space activities and should seek a scientific analysis of those experiments from COSPAR's special Consultative Group or by other international consultations. The report of the COSPAR Consultative Group would be circulated to all Member States.

(The Chairman)

For the first time since the United Nations has been dealing with outer-space matters, reference has been made in the Sub-Committee's report to a COSPAR resolution of 20 May 1964, affirming that the search for extra-terrestrial life is an important objective of outer-space research.

As to the work of the Legal Sub-Committee this year, the third session of that Sub-Committee, which was characterized by an atmosphere of co-operation, was held in two parts: one in March in Geneva, the other here in New York in October. After general debate within the framework of General Assembly resolution 1963 (XVIII), the Legal Sub-Committee and its two working groups concentrated their efforts on the elaboration of a draft international agreement on assistance to and return of astronauts and space vehicles, and on a draft international agreement on liability for damage caused by objects launched into outer space.

With regard to the question of assistance to and return of astronauts and space vehicles, the Sub-Committee had before it three proposals; one by the USSR, one by the United States, and the third submitted jointly by Australia and Canada. In the course of the discussions many amendments were presented. The Sub-Committee did useful work in clarifying the positions involved. It was able to narrow the gap and to reach agreement on several articles of such an international convention. The report of the Legal Sub-Committee reflects the development of this draft agreement.

On the subject of liability for damage caused by objects launched into outer space, the Sub-Committee had before it in Geneva a draft agreement submitted by Hungary, a draft convention submitted by the United States, and a working paper submitted by Belgium. At the second part of its third session in New York the Sub-Committee had before it, in addition to the draft agreement submitted by Hungary, a revised draft convention submitted by the United States and a draft convention submitted by Belgium. What could be called a first reading of the three texts was completed and views were expressed on a number of problems essential to the preparation of a convention on liability. This included such matters as the States which should be made liable for damage caused by space objects; the principle of absolute liability for damage or, in other words, that the party causing the damage should be liable irrespective of whether it or the other party was at fault;

(The Chairman)

the extent of liability where more than one State was determined to be liable for the damage; the question of the period within which claims should be presented, and whether liability should be subject to a limitation in amount or should be unlimited. All these problems are rather complicated and require careful consideration.

The Sub-Committee recommended continuation of its work, under the able chairmanship of Professor Iachs of Poland, on both draft agreements on assistance and liability at its next session in 1965, and with the Committee's endorsement this course will be followed.

This resumé would not be complete without mentioning the fact that since the Committee's last session great progress has been achieved in the penetration of outer space. Among other achievements, the first close-up picture of the moon's surface and the recent first three astronauts' space-craft flight were universally recognized as outstanding results.

It is no exaggeration to say that research and exploration of outer space for peaceful uses will have profound effects on the development of the countries and peoples of the world. Man's entry into outer space commands universal interest and marks a new era for mankind.

## GENERAL DEBATE

Mr. FEDORENKO (Union of Soviet Socialist Republics) (interpretation from Russian): More than a year has elapsed since the last meeting of the United Nations Committee on the Peaceful Uses of Outer Space. It has become traditional for our Committee, in such circumstances, to take stock and to map out the prospects for the activities of our Committee in the future.

The past year has been marked by further outstanding achievements in the conquest by man of the limitless expanses of space. Unexampled achievements in space are the brilliant manifestation of the daring human mind which continues to conquer the mighty forces of nature and to subordinate them to his will.

(Mr. Fedorenko, USSR)

Only a few days ago mankind welcomed enthusiastically the entry into the family of astronauts three new members -- Colonel Vladimir M. Komarov, Lt. Boris E. Yegorov and Konstantin P. Feokistov -- who, for the first time in the history of the world, on board the multi-seater space-ship Voskhod, carried out an experiment of immense scientific, technical and human significance. The launching of the Voskhod constitutes not only a great step forward and a quantitative one, but also a step of qualitative significance. It is a new step in the further conquest of space in flight of man towards other celestial bodies.

The space-ship Voskhod is a development of Soviet cosmic engines of the Vostok type. It was constructed on the basis of the information which had been obtained from the six first flights of Soviet astronauts from 1961 to 1963 and is the most advanced cosmic space laboratory of many that have been created thus far. Most significant is the fact that the construction of the Voskhod space-craft has made it possible for its crew to make their flight without space-suits but in ordinary clothes, which enabled them to move more freely and made it possible for the physician to carry out a broader programme of observation of the reaction of his comrades in the course of the flight into orbit in conditions of weightlessness and during the landing of the space-craft on the earth. The problem of a soft landing was also solved successfully. The operation of the safety and airtightness was likewise successful. For the first time the system of orientation of a space-ship by means of ionized transmitters was used. In the space-ship Voskhod there is the prototype of future space-ships for the sending of entire expeditions into outer space. The holding of a series of geophysical, physical, astronomic, biological and other experiments will be possible with the participation of scientists who are at the same time spacemen.

As distinct from all previous flights into outer space carried out in single-seat space-craft, on the space-craft Voskhod the orbital flight was carried out by a crew consisting of the pilot, a scientist who was also an astronaut, as well as a physician also an astronaut. Such a combination of specialists is most significant in the contemporary development of space science.

(Mr. Fedorenko, USSR)

The scientists of various specializations have had the opportunity jointly to carry out their research in outer space. Such collective scientific work has been carried out for the first time.

During the flight of the spaceship Voskhod, millions of television viewers in the Soviet Union and in other countries were able to observe, by means of the Intervisio and Eurovisio system, the work of space men in the course of their flight and to follow their condition of weightlessness.

The preliminary results of the flight of the spaceship Voskhod were made public at a Press conference in Moscow on 21 October this year. As the scientific results are processed, they will be broadly published and will be made available to the scientists of all countries.

In this new achievement one cannot fail to see a component part of the great creative work which the Soviet Union is carrying out in accordance with the general orientation of our Party and Government in all areas of the economy, science and culture, in the name of man and for the benefit of the whole of humanity. In hailing our hero astronauts and all those whose talent and work have again carried forth the banner of peace and socialism into outer space, we wish to repeat: let the sixth ocean, outer space, be the arena of international co-operation among States.

The Academy of Sciences of the Soviet Union is carrying out a whole series of programmes for research in outer space. In accordance with the research programme of outer space and the upper atmosphere, which was published on 1 March 1962, during the past year a whole series of other spacecraft of the Cosmos type have been launched. By means of these spacecraft, the study of the physical characteristics of the upper atmosphere and of outer space has been continued. We have studied various types of irradiation originating from the sun and from the far reaches of outer space. We have processed new elements in the construction of satellites and we have tried new methods and new types of apparatus. In particular, work is being done on the Cosmos satellites with respect to apparatus and methods of observation for further Soviet meteorological satellites.

(Mr. Fedorenko, USSR)

For the simultaneous studying of radiation belts which surround the earth and which constitute great interest in view of the danger they pose for cosmonauts, in 1964 the Soviet Union launched two pairs of satellites of the electron type. Each pair of electron satellites was launched by means of a single carrier which, in placing one of the satellites in orbit, continued its flight further until it reached the orbit of the second electron satellite. Such a method of launching bore out the great merit and reliability of the utilization of the rocket and carrier system.

The results of scientific observations obtained from these satellites made it possible to determine more accurately the structure of the earth's radiation belt, which in turn will be of great importance for ensuring the safety of the flight of man in outer space.

Information has been obtained from the electron satellites and from the Cosmos series satellites which is useful for the world magnetic survey.

We have continued perfecting new outer space ships of the Polet type, which have characteristics peculiar to the future spaceships which will be capable of manoeuvring in outer space and altering their orbit based upon instructions issued from the earth or from the crew of the spaceship itself. Without perfecting such satellites it is not possible to visualize the creation of large-scale space stations, without which in turn it is difficult to visualize future flights to other planets of the solar system.

An important contribution to the exploration of outer space has been and is being made by the scientists of other countries. Everyone knows of the successful experiment conducted by American scientists in photographing the surface of the moon from short range. Active work connected with the exploration of outer space is being conducted in India, the United Kingdom, Japan, France, Italy and other countries of the world.

The ever-increasing pace of development of space exploration requires, on the part of our Committee, the greatest attention to events in this area and to international co-operation which flows therefrom. Basing themselves upon this, the scientists of the Soviet Union are developing their co-operation, and jointly with colleagues in other countries they are carrying out this work.

(Mr. Fedorenko, USSR)

As the result of the exploration in outer space, information obtained in the Soviet Union is published in Soviet scientific literature and is made available to scientists in other countries. The Soviet scientists are closely co-operating with scientists of the Polish People's Republic, the Mongolian People's Republic, the Czechoslovak People's Republic, the German Democratic Republic, the Romanian People's Republic, the Bulgarian People's Republic, the Hungarian People's Republic, the Republic of Cuba and other countries in the tracking of satellite and space objects.

We note with satisfaction that in accordance with an agreement between the Academy of Sciences of the Soviet Union and NASA of the United States on co-operation in space exploration in 1964, an exchange of information is taking place on observations by magnetic observatories. The American side was handed processed results from the experiment using the Echo. A communications channel between Moscow and Washington has been set up for the exchange of meteorological information. The results of experimental facsimile and phototelegraphic reception on the channel in Moscow may be demonstrated here. I have before me an example of a facsimile reception of the experimental table obtained by the World Meteorological Centre in Moscow, and also an example of a phototelegraphic reception of the experimental table obtained at the World Meteorological Centre in Moscow.

(Mr. Fedorenko, USSR)

It is anticipated that there will soon be a regular exchange of various types of meteorological information, including observations from satellites.

Considering that the proposal of the World Meteorological Organization for the creation of a world-wide and regional system of meteorological centres is at present the principal link in the establishment of a system of world meteorological services and in the development of international co-operation in the field of satellite meteorology, Soviet scientists have established a world meteorological centre in Moscow, equipped with all the necessary facilities for the communication and processing of incoming information.

As regards international co-operation in the creation of a space communication system, it should be noted that a great contribution was made by the International Telecommunication Union's Extraordinary Administrative Radio Conference on the allocation of radio frequencies for the exploration and use of outer space, held in Geneva in October and November 1963. That Conference allocated radio frequencies and indicated methods to ensure the carrying out of activities in an interference-free fashion by astronauts and various space services. It adopted corresponding amendments and additions to the international regulations.

The Scientific and Technical Sub-Committee of our Committee, following its practice in previous years, did broad and useful work at its last session. In the report of the Sub-Committee we find detailed recommendations on the exchange of information, co-operation in two international programmes on the exploration and use of outer space, the training of specialists in the study of outer space, the establishment of international launching pads for sounding rockets, the potentially harmful effects of space experiments, and so forth.

At our Committee's session last year, the Soviet delegation drew attention to the need for adopting concrete recommendations on the question of potentially harmful experiments. In the report of the Scientific and Technical Sub-Committee which is now before us we find definite recommendations that take into account the resolution adopted by COSPAR in May 1964 on the basis of a report of the Advisory Group of COSPAR regarding potentially harmful experiments.

(Mr. Fedorenko, USSR)

As is known, in March of this year a number of members of the Committee submitted a proposal that there should be held in 1967, under the aegis of the United Nations, an international conference on the exploration and use of outer space. The Soviet Union supported the proposal. We would recall that the idea of holding such a conference was advanced for the first time by the Soviet Union and was approved by the United Nations General Assembly in resolution 1472 (XIV). The convening of such a conference was also supported by the Cairo Conference of Heads of State and Government of Non-Aligned Nations in October of this year. For our part we deem it appropriate that this Committee should recommend to COSPAR and the International Astronomical Federation that they associate themselves with the Organization in the holding of that Conference and that UNESCO should be requested to provide all necessary assistance.

As we see it, the recommendations of the Scientific and Technical Sub-Committee have been well presented and deserve the approval of this Committee.

I turn now to the question of the development of legal standards for co-operation among States in the exploration and use of outer space. Our Committee has also achieved some positive results in that domain.

First, we wish to note with satisfaction that, as a result of the serious work done in this Committee, the General Assembly of the United Nations adopted, towards the end of 1963, by a unanimous vote a most important document: the Declaration of legal principles governing the activities of States in the exploration and use of outer space (A/RES/1962 (XVIII)). In substance, the Declaration is the first serious attempt legally to regulate the activities and co-operation of States in the exploration and use of outer space. The Declaration creates favourable conditions for the attainment of further success in the conquest of outer space through the development of broad co-operation by all States. The Declaration has laid the foundation for the further formulation of international legal standards and principles governing activities in outer space. The Declaration, as everyone knows, has had a great impact on the formulation of the subsequent agreements, in particular the agreement on the rescue of astronauts and the agreement on liability for damage done in connexion with the exploration of outer space.



(Mr. Fedorenko, USSR)

There can be no doubt that the Declaration is an important document. However, in addition to it there is a need, as has been confirmed in General Assembly resolution 1963 (XVIII), to formulate an agreement on the legal principles governing the activities of States in outer space, an agreement which would contain firm legal obligations for States.

In the Legal Sub-Committee, the Soviet Union has proposed that such an international agreement should be drafted. We adhere to that proposal. We note with satisfaction from its report that the Legal Sub-Committee has done useful work in preparing an agreement on rescuing astronauts and space vehicles in the event of accidents or forced landings. Our delegation attaches considerable importance to that. The conclusion of such an agreement would make a definite contribution to the cause of international co-operation in outer space. The provision of rapid and effective assistance to astronauts in distress, astronauts who represent mankind in outer space and who act in the interests of all countries, is the humanitarian duty of every State. As is known, the Soviet Union has taken the initiative in that question. As long ago as the first session of the Legal Sub-Committee, in May 1962, the Soviet delegation proposed the formulation of an agreement on rescuing astronauts and introduced a relevant draft agreement for the consideration of the Sub-Committee. In March and October of this year, the Soviet Union introduced revised draft agreements on the provision of assistance to astronauts and space vehicles. The last revision, dated 5 October 1964, was drafted in the light of comments made during the work of the Legal Sub-Committee. It incorporates many of the proposals made by members of the Sub-Committee. As in the past, our draft is based on the underlying principles of international law as laid down in the United Nations Charter, and in the first instance on the principle of the sovereign equality of States. It proceeds from the provisions of the Declaration of legal principles governing the activities of States in outer space and from the need to ensure that the agreement affects all countries of the world, without any discrimination.

(Mr. Fedorenko, USSR)

Various provisions of the most recent Soviet draft on the rescue of astronauts were discussed in detail in the course of the work of the Legal Sub-Committee. I consider that there is no need to speak in any great detail on them here. We are firmly convinced, and the results of the work of the Legal Sub-Committee further convinces us in our line of thinking, that the Soviet draft constitutes a constructive basis for the formulation of an agreement that on its basis it might be possible rapidly to agree upon solutions applicable and agreeable to all participants. This is illustrated by the fact that the Sub-Committee, at the session which has just been completed, was able to harmonize a preamble and some of the articles of the draft agreement.

Our common task now lies in continuing the work in trying to achieve this speediest harmonizing of the whole of the text on the rescuing of astronauts. The Soviet Union is striving towards that and our delegation is prepared to exert further efforts along this line. We consider that in the noble work of providing assistance to the envoys of mankind in outer space, all States should be given an opportunity to participate so that from the point of view of the territorial application of the agreement, there should be no blanks.

Proceeding from the need to utilize all available resources for ensuring a genuinely universal application of the agreement on the rescue of astronauts and space craft, and their return, we propose with respect to this agreement we utilize the formulation regarding the number of participants in this international agreement and the procedure that is contained in the Moscow Agreement on the prohibition of nuclear testing in the atmosphere, outer space and under water, which was adopted by more than one hundred countries of the world. This provision is important for the draft agreement on the rescue of astronauts and space craft and their return. It takes into account the interests of all States and provides a good basis for a prompt solution of this problem.

In the course of the third session of the Legal Sub-Committee, considerable work was likewise done in the area of the formulation of a draft agreement on liability for damage done by objects launched into outer space. In spite of the complexity of that problem, encouraging results have been achieved on the whole. Great importance in the preparation of a mutually acceptable final variant of a draft agreement on liability for damage, is the draft liability, as we see it, that was introduced by the delegation of the Hungarian People's Republic in March of this year, which was examined in detail in the course of the work of the

(Mr. Fedorenko, USSR)

Legal Sub-Committee. This draft, which has been prepared with due account being taken of the provisions of the declaration of legal principles, is one which is most in line with the needs of Governments for co-operation in the area of liability for damage that might be done by launching objects into outer space.

These are the considerations of the Soviet Union regarding the orientation and content of the future work of our Committee in scientific and technical as well as legal questions of international co-operation of States in the exploration and use of outer space.

In conclusion, we consider it necessary to stress that the Soviet Union will in future continue to apply all efforts for the development of international co-operation in the use of outer space for peaceful purposes on the basis of equality and in the interests of all peoples. It stands to reason that such co-operation can develop successfully only in circumstances of peace and a relaxation of international tension. For its part the Soviet Union has been guided and will continue to be guided by Leninist principles of peaceful coexistence which are the firm and traditional foundation of the foreign policy of the Soviet Union.

The Soviet Union will continue to fight for the strengthening of peace, for friendship and for co-operation among peoples, for general and complete disarmament and for further relaxation of international tensions. We unswervingly stand for the strengthening of the United Nations in the interests of peace and security.

Mr. PLIMPTON (United States of America): From the dawn of the space age the exploration of outer space has been conceived as a co-operative venture. Each year as the number of nations conducting research in space increases, the network of bilateral and multilateral arrangements spreads.

There are many examples. The joint study of the auroral ionosphere by the Scandinavian countries, in co-operation with the United States, is an example of the effective pooling of resources by countries which share a common locale and access to common geophysical phenomena.

(Mr. Plimpton, United States)

The establishment of ESRO and ELDO illustrates the possibilities of effective co-operation on a regional basis. Such co-operation makes possible accomplishments beyond the resources of individual participants.

Co-operative satellite launchings of England, France, Italy and Canada with the United States are enabling these countries to gain experience in satellite work, both useful in itself and in developing the technological capability for their own national satellite programmes.

There are further examples of effective bilateral co-operation -- for instance, experimental research conducted by France with Argentina, Iceland, India, Pakistan, Japan and the United States. World-wide ionospheric and meteorological research programmes using United States satellites are other examples of the kind of co-operation which has made space a common venture.

And the scope and magnitude of activity in outer space are increasing. By the end of the first decade of space -- in 1967 -- there should be not just two satellite launching nations but a significant number of other States and several international organizations conducting such launchings or participating directly in them. The sounding rocket programmes of a score of countries will be steadily increasing in scientific and technical sophistication. All these efforts -- including ground-based work, telemetry and data acquisition -- will be increasingly consolidated and co-ordinated through programmes and institutions of scientific exchange.

The review of national and co-operative international space activities prepared by the United Nations Secretariat presents a picture of outer space exploration as it is carried on today in thirty-seven countries. The review of the activities and resources of the United Nations itself, of its specialized agencies and of other competent international bodies relating to the peaceful uses of outer space effectively completes this outline. The variety and scope of information contained in these reviews give some idea of the enormous and growing field in which this Committee operates and of the important work with which it is entrusted.

This year the Scientific and Technical Sub-Committee made a number of important recommendations to increase the scope of our activities. The following actions will be taken, if these recommendations are approved.

(Mr. Plimpton, United States)

This Committee will ask the Secretariat to update and republish the reviews just mentioned every two years, and to improve the form and usefulness of the report on national and international programmes.

The Committee will empower the Secretariat to function as a clearing house of information on education and training, thus fostering the growth of co-operative space arrangements and the spread of scientific and technical knowledge. This is a task that the Secretariat would perform on a continuing basis.

(Mr. Plimpton, United States)

The Committee will ask the Secretariat to compile useful information on international conferences and symposia and periodically inform Member States so as to assist them in assessing the importance and relevance of these meetings.

The Committee will ask that steps be taken to increase the size and usefulness of the Outer Space library maintained by the Secretariat.

The Committee will ask the Secretary-General to consider, in the light of existing material, the usefulness and possibilities of publishing new material on the purposes and potentialities of space activities, possibly in a series of pamphlets or a handbook. With increasing world-wide interest in outer space, we would hope that this project might be fully considered in the near future.

The Committee will recommend that the General Assembly accord United Nations sponsorship to the first international sounding rocket facility, the Thumba International Equatorial Sounding Rocket Launching Facility in southern India. My Government fully supports the recommendations of the Scientific Group which visited the facility and of the Scientific and Technical Subcommittee. We are pleased that France and the USSR have also provided assistance for the facility.

The Committee will take into account the resolution adopted by COSPAR concerning potentially harmful effects of space experiments. My delegation hopes that the recommendations of COSPAR on biological sterilization of space probes will be supported by extensive international exchange of information. Accordingly, we hope that the members of COSPAR will lend their support to the convening of an international conference on this particular matter, as proposed in paragraph 9 of the COSPAR resolution.

In addition, the Committee will be endorsing the concept that nations undertaking experiments in outer space should give full consideration to the problem of potentially harmful effects and should, where they consider it appropriate, seek scientific analysis of the qualitative and quantitative aspects of those experiments.

At the meeting of the Scientific and Technical Subcommittee this spring, some delegations expressed interest in the possibility of organizing in 1967 an international conference under United Nations auspices on the exploration and peaceful uses of outer space. The United States shares with others the belief that the passage of the first decade in space exploration is an occasion which properly deserves commemoration. We believe, however, that a scientific and

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technical conference would largely duplicate, at a very considerable expense in time and resources, the same exchanges of information that are conducted each year on an ever-widening scale by such organizations as COSPAR, the many scientific unions, the WMO, the ITU, the other specialized agencies, the International Astronautical Federation, and many national agencies. Nearly all of the nations conducting space research are already publishing the results of their work as soon as these are obtained. Such a conference is not likely, we think, to produce any more information than is currently produced as a matter of course, and we question whether the very considerable additional expense, both in time and money, would be justified.

Rather than a full-blown United Nations conference, we would suggest a commemorative meeting of the Outer Space Committee itself in 1967. In addition to the handling of the Committee's usual business, the meeting could provide a wide exchange of views on matters of general interest in space. It could feature the reports of experts on the achievements of the space age in the past ten years and outline the possibilities and potentialities for the future. Such a meeting would be a culmination of the work of this Committee since its inception, and would be a fitting task to engage its energy and resources.

A belief central to this Committee is -- and I quote from Resolution 1721 (XVI) -- "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." In recent years there have been developments in two areas which offer the greatest promise of wide-scale benefit for mankind from outer space research: meteorology and telecommunications.

This year has witnessed impressive progress in both fields. In meteorology, the World Meteorological Organization has moved ahead with its planning for the establishment of a world-weather watch.

The Third Report of the WMO on the atmospheric sciences and developments in outer space stresses two ways in which meteorological satellites may affect the proposed world weather system: first, as a means of obtaining unprecedented observations of the earth's atmosphere; and, second, as a means of communication for the collection and exchange of meteorological data on a global scale.

The United States has two meteorological satellites now in orbit which are continuing to provide weather information: TIROS VII, launched on 19 June 1963, and TIROS VIII, on 21 December 1963.

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NIMBUS I was launched on 28 August of this year and has demonstrated the value of a number of improvements. In contrast with earlier meteorological satellites, NIMBUS was oriented continuously toward the earth, enabling it to provide daily observations over the entire earth. Like its immediate predecessor TIROS VIII, NIMBUS I was equipped with an automatic picture transmission system, which made it possible for suitably equipped ground stations in other countries to obtain direct cloud cover pictures over their local areas at relatively low cost. The NIMBUS satellite demonstrated conclusively the value and importance of several previously untried concepts in space technology, including high resolution infrared data on night-time cloud systems, giving us global weather information on a 24-hour basis.

In the field of space communications, the Third Report of the International Telecommunication Union provides an account of the commendable achievements of the Extraordinary Administration Radio Conference on the allocation of frequency bands for space communications convened by the ITU in October of last year.

The United States has in the last year continued to perfect the synchronous orbit technique for space communications. On 19 August 1964, SYNCOM III was successfully launched and is now in an almost completely stationary orbit 22,300 miles above the Pacific Ocean. It has served to transmit the 1964 Olympics from Japan to television viewers in North America and Europe.

Resolution 1721 of the sixteenth General Assembly stated that "communication by means of satellites should be available to the nations of the world as soon as practicable on a global and non-discriminatory basis." Resolution 1802 of the seventeenth General Assembly stressed "the importance of international co-operation to achieve effective satellite communications which will be available on a world-wide basis." On 24 July 1964, nineteen countries, including the United States, joined together in completing two agreements for the establishment of interim arrangements for a global commercial communications satellite system as envisaged in these resolutions. The agreements will remain open to accession by all Member States of the International Telecommunication Union. However, it is not necessary to adhere to these agreements or to invest in these arrangements for any nation to have access to the satellite communications system being established. Access will be open to all as it becomes technically feasible.

(Mr. Plimpton, United States)

These agreements have been submitted for registration to the Secretary-General of the United Nations in accordance with Article 102 of the Charter of the United Nations. Copies of the agreements have been made available to the members of the Committee. In this connexion, I call to the attention of members a "Progress Report" which the United States in association with the other sixteen signatories is today submitting to the Secretary-General.

(Mr. Plimpton, United States)

The time-table for this operational system includes the launching of an experimental-operational "Early Bird" synchronous satellite over the Atlantic Ocean in March 1965. By the Fall of 1965, the international policy committee for these arrangements will take a decision as to the basic operational system, and the deployment of the global system will begin in 1966.

These satellites will provide voice, telegraphy, high speed data, facsimile and television communications service as rapidly as practicable on a global and non-discriminatory basis.

Communication traffic is expanding in all areas of the world. While the North Atlantic route is the heaviest traffic area at present, traffic will undoubtedly increase rapidly in other parts of the world as well. All areas of the world will profit through the use of satellite communications facilities. Improved communications contribute significantly to increased international trade and investment, travel, education and cultural opportunities and the exchange of ideas among people in different parts of the world, thus furthering peace and international understanding. We look forward to the use by the United Nations itself of the increased communications facilities to be made available by the proposed satellite system.

I should like to turn now to another area in which this Committee has been entrusted with special responsibilities: the area of legal problems which may arise from exploration of outer space. Since its inception, the Committee has made notable progress. General Assembly resolution 1721 (XVI) expressed the view that international law and the United Nations Charter apply to outer space, and laid down the principle that outer space and celestial bodies are free for exploration and use by all States, and are not subject to national appropriation.

This resolution established the basis for the next major development: the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, adopted at the instance of this Committee by the General Assembly as resolution 1962 (XVIII). The operative paragraphs of this resolution contain legal principles which the Assembly has declared should guide States in the exploration and use of outer space.

(Mr. Plimpton, United States)

Resolution 1963 (XVIII) requested the Committee "in particular to arrange for the prompt preparation of draft international agreements on liability for damage caused by objects launched into outer space and on assistance to and return of astronauts and space vehicles". The basis for these agreements had already been accepted in paragraphs 7, 8 and 9 of the Declaration.

The work of drafting these agreements has occupied the Legal Sub-Committee in its session in March and its resumed session which has just been completed.

On the question of liability, we have had a full and useful exchange of views. In addition to the revised text presented by my country, we have considered texts prepared by Belgium and Hungary. I think all the representatives who attended these meetings would agree on the high quality of legal argument and analysis which has prevailed. The foundation has been laid. My delegation is eager to continue the work of raising the growing structure of agreed language. We believe the work should be pursued at the Legal Sub-Committee's next meeting so that a fully agreed text may be reached as soon as possible.

On assistance and return, there has been, perhaps, greater progress, based in part, no doubt, on the greater simplicity of the subject. Some issues remain unresolved, but my delegation believes that a continuation of the positive efforts which were made by all concerned during the meetings of the Legal Sub-Committee will lead to fruitful results.

Agreements on liability and on assistance and return will represent yet another step towards the construction of a regime of law in outer space. They will fittingly complement the progress we have made in the scientific and technical area. With goodwill, we can match progress in both areas and lend credence to those who would claim for our Committee an important role in giving the principles of the Charter relevance to the new environment of outer space.

The CHAIRMAN: Does any other member of the Committee wish to speak now in the general debate? It appears that that is not the case.

In view of the fact that there is only one speaker inscribed for this afternoon's meeting, I think the Committee will agree that we should now adjourn until tomorrow morning. Since there is no objection, the next meeting of the Committee will be tomorrow at 10.30 a.m.

The meeting rose at 12.10 p.m.