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COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE

VERBATIM RECORD OF THE ONE HUNDRED AND EIGHTY-FIRST MEETING

Held at Headquarters, New York,
on Wednesday, 28 June 1978, at 10.30 a.m.

Chairman: Mr. JANKOWITSCH (Austria)

later: Mr. DATCU (Romania)
(Vice-Chairman)

General debate (continued)

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The meeting was called to order at 10.50 a.m.

GENERAL DEBATE (continued)

Mr. JAROSZEK (Poland): Mr. Chairman, your outstanding tenure of office at the helm of this Committee has coincided with many epoch-making feats in space exploration. Today I am privileged and honoured to inform you and the other members of this important Committee of the venture into outer space of the first Polish cosmonaut, Major Miroslaw Hermaszewski, who with his Soviet colleague, Colonel Pyotr Klimuk, is now orbiting the earth aboard the Soviet SOYUZ 30 space vehicle which was launched yesterday.

To us in Poland, engaged most genuinely in a peaceful effort to secure a happy life for our people and our future generations, the first entry into space epitomizes the past, the present and the future of that effort and the everlasting vitality of the Polish spirit. Symbolically, it spans the five chequered centuries between the time of our greatest astronomer, Nicolaus Copernicus, who "stopped the sun and moved the earth", and socialist Poland of today. By laying the basis of modern astronomy Copernicus made it possible for envoys of mankind - like Major Hermaszewski and Colonel Klimuk - to visit the universe.

The present momentous event in space brings to light one more historical and political reflection of incontestable validity: in 1918 the victory of the Great October Socialist Revolution created favourable conditions for Poland to rejoin the family of independent nations; 60 years later the Polish and Soviet peoples - whose friendship has been cemented in their common victorious struggle against the Nazi invaders in the Second World War, followed by the last three decades of fraternal relations and co-operation - are sending their brave men to explore the unknown vistas of space. The space flight of the first Polish cosmonaut marks the historic transformations and accomplishments of post-war Poland and is both the consequence and the most vivid expression of our brotherly alliance with the Union of Soviet Socialist Republics.

(Mr. Jaroszek, Poland)

The space flight now in progress is yet another important contribution to the peaceful exploration of outer space. The scientific and technical programme of the flight, prepared and carried out by Polish and Soviet research institutions, is both laborious and comprehensive. It includes technological experiments, research in physics, medicine and biology, as well as prospecting of the earth from outer space; it also has been conceived as an important phase of the functioning of the space laboratory Salyut 6, now manned by two other brave astronauts, Vladimir Kovalenko and Aleksander Ivanchenkov.

That is in the spirit of the long-standing position of my country and all other States of the Socialist Community which from the very first days of the space age have consistently advocated that outer space be explored and used solely in the interests of peace and international security. We strongly believe that any environment accessible to man - be it the surface of this earth, the sea-bed and ocean floor, or outer space - should be used only for the good of mankind and fruitful co-operation among nations. That is why we have always actively pursued efforts aimed at codifying international rules of conduct in outer space, including the elaboration of relevant international agreements, so greatly enhanced by this Committee and you personally, Mr. Chairman.

We are further fortified in this conviction by the recommendation of the Helsinki Final Act of the Conference on Security and Co-operation in Europe, which explicitly encourages co-operation in space exploration and the study of the earth's natural resources and its natural environment. We likewise fully ascribe to the agreed formulations of the special session of the General Assembly devoted to disarmament that, in order to prevent an arms race in outer space, further measures should be taken, and appropriate international negotiations held, in accordance with the spirit of the outer space Treaty. The fact that the flight of the first Polish cosmonaut coincides with the special session of the General Assembly devoted to disarmament indeed has a symbolic meaning of its own.

The international significance of the Polish-Soviet space flight reveals how medium-sized countries like Poland can effectively participate in practical ventures of space exploration, once there exists a well-conceived

(Mr. Jaroszek, Poland)

international co-operation and a readiness on the part of space Powers to share their experiences and equipment. Only eight years ago the Polish City of Wroclaw witnessed the establishment of the INTERCOSMOS multilateral programme of space co-operation. The INTERCOSMOS is one of the most successful and productive programmes of international co-operation for the study and exploration of outer space. A landmark in its development was the Soviet proposal for the participation of the citizens of other socialist countries in manned flights on board Soviet space vehicles and stations. Today it is indeed an indelible sign of the changing times that out of four nations which so far have sent representatives into space as many as three are States of the Socialist community - the Soviet Union, Czechoslovakia and now Poland.

(Mr. Jaroszek, Poland)

I wish to take this opportunity to extend our whole-hearted felicitations to the delegation of the Union of Soviet Socialist Republics on the new great achievement in outer space, an achievement part of which is a contribution of the Polish mind and indeed spirit.

I rest assured that, as in the past, this Committee will continue to play its central role in fostering international co-operation in outer space by bringing about new developments both in the field of the law of outer space and in the realm of scientific and technical arrangements. I wish the Committee most fruitful results from the present session of the Committee.

Mr. Chairman, it gives me great pleasure to present to you in recognition of your outstanding personal contribution to the development of international co-operation in the peaceful uses of outer space two commemorative medals issued on the occasion of the first space flight of a Polish cosmonaut by the Polish Academy of Sciences and by its Committee on Outer Space.

May I now, Sir, come over, together with the Vice-Chairman of the Committee on Outer Space of the Polish Academy of Sciences, Professor Stefan Piotrowski, and have the privilege and honour to hand over the medals to you.

The CHAIRMAN: I thank the representative of Poland for his generous tribute to the Chairman and for the presentation of medals.

We have just heard a most important and a most enjoyable announcement. The nation of Copernicus has inscribed itself again and indelibly in the annals of the history of the exploration and peaceful uses of outer space.

Commander Miroslaw Hermaszewski aboard SOYUZ 30, together with his Soviet colleague, has set a new feat in space exploration. Poland is now

(The Chairman)

amongst those which have established a peaceful human presence in outer space and sent a signal for others on the path to the peaceful conquest of outer space by man. For the members of the Committee on the Peaceful Uses of Outer Space it is a cause of pride and satisfaction that one of our most active and constructive members has thus contributed to the idea of international co-operation in outer space. Our warm wishes and congratulations go to the members of the delegation of Poland and to all other members of the great international community of INTERCOSMOS.

Mr. BARTON (Canada): It is a distinct pleasure for me to speak for the first time in this, the twenty-first session of the Committee on the Peaceful Uses of Outer Space, an anniversary which itself is significant of the fact that the Committee has achieved maturity. The Canadian delegation, Mr. Chairman, is also especially pleased that the work of this session will be accomplished under your wise and experienced leadership. Your competence and leadership was eloquently exemplified on Monday when, in your remarks as Chairman, you so ably summarized the state of play on all of the important issues which will be considered by the Committee at this session. In your years of service as our Chairman, you have continued the tradition of distinguished service to this Committee which had already been so well established by previous Permanent Representatives to the United Nations from your country. We are also very mindful of the generous hospitality extended to the Committee last year by the Government of Austria at its landmark twentieth session.

I should like also to pay tribute at this time to the contribution made to the Committee over a number of years by the Chairmen of the Scientific and Technical Sub-Committee, Professor Carver of Australia, and by the Chairman of the Legal Sub-Committee, my friend Ambassador Wyzner of Poland, whose years of service as Chairman of the Legal Sub-Committee were recognized by a special resolution of that body last year. We regret very much that we will not have the benefit of their wise

(Mr. Barton, Canada)

counsel at this session of the parent Committee. Last, but by no means least, I should like to express our appreciation and gratitude for the devoted service rendered us year after year by the members of the Outer Space Affairs Division and the other sections of the United Nations Secretariat, because without their help nothing could be done. I should like also to take this opportunity to welcome the 10 Member States which, pursuant to the resolution adopted at the last session of the General Assembly, have become new members of this Committee. We look forward to working with them in the same co-operative and constructive spirit which has always characterized the deliberations of this body.

Much has been accomplished in the geographically limitless field of outer space in the 21 years since this Committee was established and we can foresee even more exciting developments in the future. We must now begin to address ourselves increasingly to the legal and technological effects of these developments and how they can best be used, or controlled where necessary, for the greater benefit and progress of all mankind. This Committee has always provided a main forum for the discussion and resolution of many issues, and we are confident that it will continue to do so and that it will be able to meet the challenges which increasingly will face us all in dealing with the still largely unexplored field of outer space - literally the last remaining frontier of mankind.

The Canadian space programme has continued to develop over the years. The third nation to have a satellite in orbit, we have continued to seek ways to apply this technology both to global problems and to those of our own geographic space. Members of the Committee will find on their desks this morning copies of a book entitled Canada in Space which describes our space-related activities both within our own territory and in co-operation with other national and international agencies. The ANIK and HERMES communications satellites have linked the remote communities of Canada with the rest of the country and the rest of the world. The LANDSAT programme in which we co-operate with the United States is of great value to Canada and to many other countries of the world.

(Mr. Barton, Canada)

We are actively involved at present in expanding our co-operation in the peaceful use and application of satellites. We are seeking to upgrade and augment our status vis-à-vis the European Space Agency; we are discussing means of international co-operation in search and rescue; we are participating in projects of international development assistance. We realize that the further development of a Canadian space programme and technology will best be achieved through international co-operation and awareness of the benefits that will result, both to us and to others.

(Mr. Barton, Canada)

We have also noted with much satisfaction the various space projects or activities which have been initiated during the past year or are about to be launched by a number of Member States on the basis of bilateral or international co-operation. At this time, I should like to extend the best wishes of my delegation to the Polish delegation on yesterday's launching into space of the first Polish cosmonaut. I have already had the pleasure of congratulating my friend and colleague, Ambassador Jaroszek, and now I join the official compliments of the Canadian delegation with the others which I am sure will follow.

I should like now to turn briefly to the work accomplished and the issues addressed by this body and its sub-committees since we met in Vienna one year ago. On some of these matters, we shall be commenting in greater detail under individual agenda items. I should like also to comment in particular on an event having a very direct implication for Canada and, I suggest, for all members of this Committee.

On 8 February 1978, Canada officially notified the Secretary-General of the United Nations, under the terms of the 1968 Rescue and Return Agreement, of the re-entry and impact in northern Canada of the Soviet satellite COSMOS 954. In view of the wide-ranging implications of this incident, the Canadian delegation proposed the establishment of a working group which would examine safety aspects of the use of nuclear power sources in outer space. This proposal received broad support in the Scientific and Technical Sub-Committee, but owing to divergent views it did not prove possible to reach agreement at that time regarding the establishment of the working group. The Sub-Committee did, however, recommend that this Committee should continue the exchange of views and determine the role that this Committee and its sub-committees could play, including the possibility of establishing a group of experts. On 14 March 1978, at the seventeenth session of the Legal Sub-Committee, the Canadian representative reviewed relevant principles of international law relating to the incident. Canada, together with other delegations, recommended that the Legal Sub-Committee should begin a review of existing international instruments with the object of recommending necessary additional legal measures concerning the use of nuclear power sources in space.

(Mr. Barton, Canada)

During the course of this session, we hope to reach agreement on the proposals put forward in the Scientific and Technical Sub-Committee and the Legal Sub-Committee. These proposals are designed to provide for an orderly and substantive programme of work for the Outer Space Committee and its two sub-committees in the coming year. We welcome comments and suggestions on the proposed mandate of a working group of experts which would examine safety aspects of the use of nuclear power in space along the lines of the Working Paper submitted by the Canadian and eight other delegations on 27 February. The proposed group of experts would have the task of recommending specific and concrete measures to minimize the risk of a recurrence of the problems we have experienced in our Northwest Territories and to ensure safety of life and integrity of the human environment. We shall also welcome comments on a programme of work to be developed for the Legal Sub-Committee, without prejudice to other priority items of its agenda, along the lines of the Working Paper co-sponsored by Canada and 14 other States, as contained in annex IV of the Sub-Committee's report.

In looking at the agenda of this meeting, we note the progress which has been made towards the convening of a second United Nations Conference on Outer Space and express the hope that a definitive decision on this subject will materialize at this session. In this connexion, I should like to place on record some of our views on this projected conference.

We welcome it in principle. We see it as having the potential to bring a world-wide focus to a broad spectrum of questions relating to space technology and its applications. In our view, consideration in a single forum of a wide range of space-related matters could be of benefit to both developing and developed countries. For these reasons we commend the work of the Working Party of the Scientific and Technical Sub-Committee, under the chairmanship of Professor Carver, and of the Working Party's Drafting Group, under the chairmanship of Professor Yash Pal. We consider that these two bodies were notably successful in reconciling those differences of view which remained between some members of the Committee concerning the question of convening the conference and in producing an analysis and recommendations which have provided a good basis for the preparation of such a conference.

(Mr. Barton, Canada)

That being said, the Canadian delegation would again like to record its view that hopes for the success of such a conference can only be realized if the conference is thoroughly planned and prepared over an adequate period of time. We fully concur in the view that the conference could not be held earlier than two to three years after the decision by the General Assembly. For our part, we would think that three years would be preferable, both because of the amount of preparation which will be required and of the need to take full account of the results of the 1979 United Nations Conference on Science and Technology for Development.

As one final comment on this subject, I should like to repeat the point already made by us in a submission which is part of this Committee's documentation, that, as all Member States of the United Nations will be invited to this proposed second outer space conference, they will thus be afforded an opportunity to consider in a direct manner most of the issues normally falling within the scope of this Committee.

During the fifteenth session of the Scientific and Technical Sub-Committee, the Canadian delegation expressed regret that adequate time had not been allotted to consideration of remote sensing issues. We are concerned particularly by the lack of progress towards co-ordination and compatibility of remote sensing systems. We strongly support the establishment of a remote sensing panel of experts and would urge that all Members reply to the Secretary-General's note on this matter by the time limit of 31 July 1978. We look forward to progress being achieved in this respect at the sixteenth session of the Scientific and Technical Sub-Committee.

One important remote sensing issue received considerable attention during the discussions in the Sub-Committee. This was the establishment of a régime governing the dissemination of information obtained by remote sensing. My delegation favours a régime of open dissemination for primary data as being the most equitable and practical system which can be devised. Such a régime would provide all States with equal, timely and non-discriminatory access to data, subject to the conditions that this data should not be used to the detriment of the sensed State or in a manner inconsistent with the sovereignty of the sensed State.

(Mr. Barton, Canada)

With respect to questions relating to dissemination of data and information, Canada has completed a review of this question, bearing in mind the need to maximize the benefits of this promising new technology consistent with the protection of legitimate national interests. We intend to consult closely with other delegations on this issue.

Questions relating to remote sensing were also discussed in the Legal Sub-Committee where useful work was accomplished which should help provide a basis for progress at next year's session. Definitions of the terms "primary data" and "Analysed information" as formulated in 1976 by the Scientific and Technical Sub-Committee, have been tentatively placed in a new draft principle. These definitions should help to clarify terminology, particularly with respect to issues relating to the dissemination of data and information. While no agreement was reached on draft principles concerning notification, consultations and the peaceful settlement of disputes, we believe the draft texts developed lay a good foundation for future work.

We are pleased to note the co-ordination on remote sensing issues between the Scientific and Technical Sub-Committee and the Legal Sub-Committee, particularly concerning the definition of terms, and we hope that each Sub-Committee will continue to benefit from the work of the other.

In other areas of its work the Legal Sub-Committee achieved mixed results. While progress was achieved on certain issues, most notably the draft treaty relating to the moon, the lack of progress on direct broadcast satellites was a major disappointment as was the lack of agreement on an action-oriented programme for the Legal Sub-Committee with regard to the use of nuclear power sources in outer space.

(Mr. Barton, Canada)

As a result of the efforts of several delegations, and particularly that of Austria, Canada welcomes, as a good basis for conclusion of the work on the draft moon treaty, the tentative agreement developed at the 1978 session. A preliminary reading of this draft agreement, which was not discussed in the Legal Sub-Committee, indicates that the components for a compromise are in place, but a certain amount of technical redrafting may be required. We consider that the major elements of the compromise regarding the concept of the common heritage of mankind, the establishment of a future international régime to govern the exploitation of the moon's resources and the review provisions of the agreement have been carefully interrelated and provide a basis for optimism that the draft treaty relating to the moon may be concluded in the near future.

In view of the substantial progress which had been achieved on the draft principles on direct broadcast satellites at the 1977 sessions of the Legal Sub-Committee and the parent Committee, it seemed possible that the draft principles might be completed at the 1978 session. At that time Canada, speaking also on behalf of Sweden, indicated that the remaining issues were few and that the time was ripe for concluding a full set of draft principles on this subject. These views were widely shared, but unfortunately virtually no progress was achieved at the session, owing for the most part to a lack of agreement on four words contained in the compromise proposal put forward by Canada and Sweden at the 1977 session of the Legal Sub-Committee. Paragraph 29 of the report of the Legal Sub-Committee requests this Committee to consider whether the draft principles on direct broadcast satellites can be completed or whether further progress can be achieved during this session. In our view it should not be beyond our capabilities to achieve a consensus on the remaining issues. In a committee based on the consensus principle, however, this requires a willingness to compromise on the part of all delegations. We for our part are prepared at this session for substantive negotiations on the basis of the texts contained in the report of the Legal Sub-Committee, and we urge other delegations to reflect on the limited number of issues which separate us and to lend their efforts to a successful conclusion of our work on the draft principles.

(Mr. Barton, Canada)

The Committee on the Peaceful Uses of Outer Space has always been regarded as one of the most efficient and constructive of all the committees of the United Nations. Debate in the Committee has produced treaties and agreements which enhance international co-operation and reduce the potential for conflict in outer space. We are confident that the present session will make further contributions to the traditional, but pioneering, role of this Committee. Our delegation looks forward to the discussions on each and every one of the items on our agenda and pledges its full co-operation to the Committee as a whole and to you, our Chairman.

Mr. SPEYART van WOERDEN (Netherlands): Before the Netherlands was appointed a member of the United Nations Committee on the Peaceful Uses of Outer Space we were already greatly interested in the work of this Committee, which we followed with close attention. It has always been clear to us that the many constructive results that this Committee has been able to achieve are to a large extent due to the outstanding chairmanship provided by the Austrian delegation. We are happy to see that this tradition is continued and that you, Mr. Chairman, are once again presiding over this body.

I should like to emphasize how pleased we are to participate for the first time as a full member in the work of this Committee. I thank you, Sir, as well as the representatives who have already spoken, for the kind words of welcome addressed to my delegation. I can assure you, Mr. Chairman, that you will have the full co-operation of my delegation in your efforts to achieve a successful outcome for this session.

I am happy to extend our congratulations to the Polish delegation. I am sure that all of us wish the Polish astronaut a very successful voyage and a happy return.

Turning now to our agenda, I wish to make a few remarks on some of the questions now before us.

(Mr. Speyart van Woerden,
Netherlands)

First of all, on the question of the use of nuclear energy in outer space, the accident involving a nuclear-powered satellite in January last has drawn the attention of both space experts and the general public to the dangers inherent in the application of nuclear-power sources, particularly nuclear reactors, in space objects. Of course, we must avoid over-reacting to these dangers. However, it would be equally wrong to pass them over in silence. Risks undoubtedly exist and we should do our utmost to limit them to the greatest possible extent.

At the last session of the Scientific and Technical Sub-Committee a number of delegations proposed setting up an ad hoc working group of technical experts to consider the relevant factors relating to the safety aspects of nuclear-power sources in outer space. This proposal is contained in document A/AC.105/C.1/L.103. In the Legal Sub-Committee a proposal was made to review the existing legal instruments for the purpose of recommending any necessary legal measures in this field. This proposal is embodied in a working paper attached to the report of the Legal Sub-Committee as annex IV.

My delegation is of the opinion that these proposals constitute a sound and solid basis for further action in this Committee and in the two Sub-Committees. We sincerely hope, therefore, that during this session the Committee will be able to decide upon action along the lines of these proposals.

This Committee has an impressive record on the codification of international space law. On the basis 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, we now have three other space treaties. It is gratifying to note that at the recent session of the Legal Sub-Committee further progress was made and that informal consultations resulted in a complete draft of an agreement concerning the moon. Although my delegation fully appreciates the valuable contributions made by other participants, I should like to pay a special tribute to the members of the Austrian delegation at that session. Without their relentless efforts to reach compromise solutions to the problems still outstanding this result would not have been possible.

(Mr. Speyart van Woerden,
Netherlands)

Generally speaking, my delegation can accept the draft agreement as it now stands. We wonder, however, whether improvements could not be made on a few points. In the course of the session we hope to be able to put forward some suggestions in this regard. We trust it will prove possible at this session to reach a consensus on this new addition to the body of international space law.

Another item that has been on the agenda of the Legal Sub-Committee for many years is the question of the elaboration of draft principles governing the use by States of artificial earth satellites for direct television broadcasting.

As has already been pointed out on several occasions by representatives of the Netherlands, the basic consideration in the discussion on this item should be the universally recognized right of every individual to seek, receive and impart information and ideas regardless of frontiers. This freedom should not be restricted more than is absolutely necessary from a technical point of view.

(Mr. Speyart van Woerden, Netherlands)

As the technical aspects of direct television broadcasting via satellites are dealt with exhaustively in the framework of the International Telecommunication Union, there is, according to my delegation, no urgent need for any additional regulations to be worked out in this Committee. This does not mean, however, that States conducting activities in the field of broadcasting via satellites are operating in a legal vacuum. In this case, as in all other fields of international relations, States are bound by the general rules of international law laid down in the Charter and in other instruments of a generally binding character.

As in many other spheres of international relations, closer international co-operation through consultations and participation in joint activities is of crucial importance, especially in order to avoid inequities which may arise in this connexion. Particular attention should be paid to the position of the technologically less advanced countries, which should be given the opportunity to share in the benefits of this new form of mass communication. As I have already emphasized, however, when dealing with broadcasting questions - both radio and television broadcasts, whether or not transmitted by means of satellites - our basic concern should always be that the free flow of information is not in any way jeopardized.

The question of remote sensing of the earth from outer space appears on the agenda of both the Scientific and Technical Sub-Committee and the Legal Sub-Committee. When dealing with the many complicated problems involved, our main objective should be that all countries, particularly the developing countries, should benefit as much as possible from this new form of space technology. This point of view leads us to the following observations.

First, I should like to stress that in this field, too, international co-operation, both on a regional and on a world-wide scale, is an absolute necessity. Only in this way can the conditions be created for equal opportunities in the use of remote sensing techniques for States of different levels of economic development. In order to avoid technical obstacles to international co-operation, due attention should be paid to the compatibility and complementarity of remote sensing systems already developed or to be developed. In our view, it is obvious that the United Nations should serve here as a focal point.

(Mr. Speyart van Woerden,
Netherlands)

Secondly, it is of the greatest importance that all countries should have the opportunity to interpret themselves remote sensing data about their own territories. To achieve this aim, the developing countries should be provided with educational and training assistance, as well as assistance in setting up the necessary infrastructural facilities. It goes without saying that the United Nations programme on space applications has a vital role to play in this respect. I should like to add that the Netherlands Institute for Aerial Survey and Earth Sciences, which has already trained many students from the third world in the techniques of aerial surveying, now pays special attention to training in the handling of remote sensing data. It is also worth noting that the Netherlands, together with the European Space Agency, has initiated a study into the feasibility of developing a low-cost ground station for the reception and interpretation of remote sensing data to be used in developing countries, especially for agricultural purposes.

Finally, I should like to say a few words on the availability of remote sensing data. Obviously, the sensing States will always have at their disposal all the remote sensing data they have collected. As regards the sensed States, we are pleased that it is generally accepted in this Committee that they should have timely and non-discriminatory access to data pertaining to their territories. But what is the position regarding the availability of data to third States? Imposing restrictions on the dissemination of data would create unjust differences between the "haves" and the "have nots" or, in other words, between "data rich" and "data poor" countries. In the view of my Government, however, there is no valid reason for excluding third countries from such a valuable source of information, particularly because there is no ground for the assumption that access to data by third countries, as such, would be detrimental to the interests of the sensed States. Therefore, my delegation is very much in favour of free availability of remote sensing data for all.

May I conclude by expressing the wish that this session of the Committee on the Peaceful Uses of Outer Space will yield the good results we are all hoping for.

Mr. RICHTER (German Democratic Republic): Mr. Chairman, permit me, first of all, to express our pleasure and satisfaction that you are again presiding over the meetings of this Committee. I wish also, on behalf of my delegation, to extend our greetings to the other officers of the Committee and to reiterate our readiness for co-operation.

We also take great pleasure in welcoming the newly elected members of the Outer Space Committee who are participating in our deliberations for the first time. We are certain that they will contribute significantly to the further successful work of our Committee.

The exploration and use of outer space has become a major field of peaceful international co-operation. Based on modern science and technology, comprehensive programmes are carried out which serve the exploration of outer space, the moon and other celestial bodies. From this rostrum the delegation of the German Democratic Republic wishes whole-heartedly to congratulate all peoples and States involved in such programmes on the results and progress reached. The German Democratic Republic watches with particular attention the successes achieved by the Soviet Union in the peaceful exploration and use of outer space. During the 17 years that have passed since Yuri Gagarin's flight into space great progress has been made in the exploration of outer space. Highlights of particular importance were the endurance flight of the scientific orbital station SALYUT 6, SOYUZ 26, SOYUZ 27, SOYUZ 28, and the successful transfer of supplies by means of transport spaceship PROGRESS 1. We express to our Soviet friends and comrades our appreciation and felicitations on the success of this significant and complicated experiment.

The second of March 1978 will go down in the history of space flight as a memorable date. It is the day on which the first international crew of cosmonauts was placed in orbit on board SOYUZ 28, with Soviet flight commander Alexei Gubarev and flight engineer Vladimir Remek from the Czechoslovak Socialist Republic. We should like to take this opportunity to extend to the delegation of our socialist sister country, the Czechoslovak Socialist Republic, our cordial congratulations on this successful mission.

(Mr. Richter, German Democratic Republic)

The flight of cosmonauts Gubarev and Remek inaugurated a new stage in the INTERCOSMOS programme which is jointly carried out by the socialist States. Yesterday we heard the exciting news of the successful launching of SOYUZ 30. Aboard the spacecraft are the Soviet flight commander Colonel Pyotr Klimuk and cosmonaut Major Mirosław Hermaszewski from our socialist sister country, the Polish People's Republic.

The successful placing into orbit of SOYUZ 30 furnishes fresh evidence of the magnificent implementation of the INTERCOSMOS programme. From this rostrum we wish to extend to our Soviet and, on this occasion particularly, to our Polish comrades and friends, our warmest congratulations on this successful new space venture which for us also is a source of pride and pleasure. Joint flights of cosmonauts of socialist countries and the ever greater participation of socialist States in the exploration of outer space in the interest of science and national economy are examples of the successful co-operation among sister nations in the implementation of socialist integration, and evidence of the growing rapprochement between them.

The German Democratic Republic attaches great importance to General Assembly resolution 32/195 commending the achievement of the Outer Space Treaty. Its operative paragraph 2, in particular, contains an important task for our Committee. Permit me to make a few comments in this context.

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, has proved to be a solid basis for the activities of States in outer space. Outer space can only be explored for the good of mankind if its exclusive peaceful use is guaranteed. Therefore, paramount attention is to be paid to the prohibition of the emplacement of nuclear weapons and other weapons of mass destruction on celestial bodies as laid down in the Outer Space Treaty. As a result of this prohibition the arms race in outer space was restricted and international security strengthened. The universal respect for the principles of the Treaty will also in future be essential to co-operation in the peaceful exploration and use of Outer Space. The German Democratic Republic strictly adheres to the provisions of the Outer Space Treaty and endeavours to play an active role in the attainment of its objectives.

(Mr. Richter, German Democratic Republic)

Since 1967, when the Outer Space Treaty became effective, German Democratic Republic institutions have, for example, participated in the exploration and use of outer space for exclusively peaceful purposes within the framework of the INTERCOSMOS co-operation programme of the socialist countries and under bilateral arrangements with the USSR.

The preamble of the INTERCOSMOS Agreement says that respect for the provisions 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 the Government of the German Democratic Republic signed on 27 January 1967, is a fundamental precondition and basis of such co-operation.

The basis of this successful co-operation was the Soviet Government's generous offer to the other socialist countries made in 1965 to place in orbit scientific equipment by means of its highly developed carrier rockets and SPUTNIK satellites and, depending upon the purpose of the project, return them to earth.

When an agreement was concluded between the Governments of nine socialist countries in the summer of 1976, this co-operation was raised to a higher level. The participation of citizens of socialist countries in manned space flights of the USSR became an immediate goal. Also this year, following the Czechoslovak and Polish cosmonauts, a citizen of the German Democratic Republic will successfully solve - at least so we hope - his tasks in SALYUT 6 together with his Soviet colleague.

Highlights of participation of the German Democratic Republic in the peaceful exploration and use of outer space have been the use of an MKF-6 multispectral camera aboard SOYUZ 22 in the autumn of 1976 and currently aboard orbital station SALYUT 6. This camera stands out for its high resolving power of 160 paired lines per millimetre and for its high topographic accuracy.

The German Democratic Republic disposes also of the ground-based equipment enabling the results obtained from the evaluation and interpretation of photographs to be applied in the national economy.

As follows from article 38 of the report of the Sub-Committee on Science and Technology on its fifteenth session held in February-March this year,

(Mr. Richter, German Democratic Republic)

the Soviet Union is ready to transfer on a contractual basis, to all interested States, remote-sensing data and MKF-6 photographs, from which all countries will benefit. This position is welcomed by the German Democratic Republic.

As we all know, and as follows from article 39 of the above-mentioned report of the Sub-Committee on Science and Technology, such photographs contain complex multidisciplinary information which may be employed for earth resources surveys in geology, agriculture and forestry, for the detecting of water reserves and in many other areas of the national economy, if data processing is based on subject-related map plotting. This requires analysing and processing equipment which is manufactured in the German Democratic Republic.

By participating in the United Nations seminar in Baku on remote sensing applications and in the Manila meeting in April this year, the German Democratic Republic has again contributed to the dissemination of knowledge regarding the evaluation of aero-cosmic multispectral photographs. Thus, it fulfils the Outer Space Treaty of 1967 in its letter and spirit.

In May 1976 and in July 1977 Soviet satellites of the Meteor type were launched carrying an infra-red Fourier spectrometer which was built by institutions of the German Democratic Republic Academy of Sciences.

Computerized evaluation of measuring data gained round the globe within a wide spectral range, 6 to 25 metres, of high resolving power, permit conclusions regarding the vertical distribution of some major meteorological parameters for the purpose of representing and forecasting the state of the atmosphere.

Data obtained from such joint experiments will be submitted by the USSR and the German Democratic Republic in January and May of 1979 during the periods of the Global Atmospheric Research Programme of the World Meteorological Organization. They will bring benefits for all States involved.

The activities of the German Democratic Republic also foster international co-operation in the exploration and peaceful uses of outer space in international non-governmental scientific organizations such as the Committee on Space Research (COSPAR), the International Aeronautical Federation (IAF) and the Special Committee on Solar Terrestrial Physics, where an active exchange of

(Mr. Richter, German Democratic Republic)

experience on the results obtained by the countries involved in space research, including the German Democratic Republic, is carried on. The Outer Space Treaty signed in 1967 has without any doubt further advanced peaceful co-operation in this area and thus has also contributed to strengthening the principles of peaceful coexistence.

(Mr. Richter, German
Democratic Republic)

Co-operation in outer space has been growing from year to year. For more than 10 years, the co-operation of the USSR and other Council for Mutual Economic Assistance (CMEA) member States engaged in the INTERCOSMOS programme with non-socialist States has comprised a multitude of joint experiments involving balloons, rockets and probes. It is evident that co-operation in outer space can only develop under conditions of political détente and that the continuously expanding international co-operation in its turn serves the strengthening of the process of détente.

It is quite obvious that the peaceful exploration and use of outer space, under the conditions of the existence of States having different social systems, gives rise to manifold political and legal questions. Conflicting interests come to light especially in the codification of international law governing scientific and technical activities in outer space. The German Democratic Republic believes that the legal principles governing the exploration and use of outer space to be elaborated should be such as to ensure peaceful international co-operation based on respect for sovereignty and non-intervention. Mindful of this objective the delegation of the German Democratic Republic will participate also in the present session of the outer space Committee. My delegation will in due course make detailed comments on the items of the agenda.

At its thirty-second session the United Nations General Assembly voted to increase to 47 the number of States represented in our Committee, thus complying with the request of interested States to share in the activities of the outer space Committee. Hence the German Democratic Republic considers unnecessary any further measures in connexion with operative paragraph 3 of resolution 32/196 B.

In addition, the German Democratic Republic wishes to reaffirm its view that all interested States have the right to participate as observers in public sessions of United Nations bodies of which they are not members.

Mr. THUNBORG (Sweden): Mr. Chairman, it is with great pleasure that my delegation sees you once again in the chair of the Committee on the Peaceful Uses of Outer Space. I am sure that this twenty-first session of the Committee will be successful under your wise and skilled leadership. I can assure you of the full co-operation of my delegation in your endeavours. We are confident that the atmosphere of co-operation in the Committee, which was further underlined during its twentieth session so admirably organized by your own country in Vienna last year, will prevail, as a result of your personal qualities.

At this session the Committee has among its members 10 new countries. We have already had the pleasure of working with them in the two Sub-Committees and we now greet them here in the parent Committee. We look forward to the constructive co-operation I am confident we will have.

During the year that has elapsed since the Committee on the Peaceful Uses of Outer Space last met, the development of space technology has continued to progress rapidly.

In manned space flight we have noted the spectacular achievements of the Soviet Union. We extend our congratulations to the delegation of the Soviet Union for the new world record for manned space flights set by the crew of the spacecraft SOYUZ 26. The Czechoslovak cosmonaut Ramek has made Czechoslovakia the third country to have its own cosmonaut and we congratulate the delegation of Czechoslovakia for this achievement. We have just heard of the launching of a Soviet spacecraft with a Polish cosmonaut, Miroslaw Hermaszewski, on board. We congratulate the Polish delegation on this achievement. The development of the space shuttle programme of the United States, which has continued with successful atmospheric test flights, is followed with great interest by all countries. In this context it should perhaps be mentioned that three European astronauts have been selected for the SPACELAB mission to be carried out in using the shuttle.

At the end of last year the European Space Agency (ESA) launched its first applications satellite, the meteorological satellite METEOSAT, which is now supplying pictures over Africa and Europe. In May ESA launched another applications satellite, the telecommunications satellite OTS.

(Mr. Thunborg, Sweden)

The discussions about the establishment of an international maritime system for communications with ships on the high seas by satellite have continued and we hope that they will lead to fruitful international co-operation in a new field.

New research satellites have also been launched. In 1977 the European GEOS was launched to carry out ionospheric studies. The International Sun-Earth Explorer (ISEE) gives an example of co-operation between the European Space Agency and the National Aeronautics and Space Administration (NASA). The American satellites VOYAGER I and II have been sent up with a mission to investigate the larger outer planets of our solar system.

As far as my country is concerned, it might be mentioned that a co-operation agreement was signed last year between the INTERCOSMOS Council of the Soviet Union and the Swedish Board for Space Activities. This will enable Swedish research projects to be carried out on board Soviet satellites.

The first sounding rocket for weightless materials processing has been launched from the Swedish launching station, Esrange. The Swedish station for the reception of data from the LANDSAT satellites has entered into operation. This station forms part of the ESA network Earthnet for the reception of satellite remote sensing data.

Following a decision by the Nordic Council of Ministers, an extensive study on the possibilities of establishing a Nordic system for direct broadcasting by satellite has been initiated.

The Scientific and Technical Sub-Committee and the Legal Sub-Committee have both achieved positive and valuable results during their sessions earlier this year. My delegation highly appreciates the work of the Chairmen of the two Sub-Committees, Professor Carver of Australia and Ambassador Wyzner of Poland, whose skilful and able guidance are a solid guarantee of success.

My delegation would like to extend its appreciation and gratitude to Ambassador Lindenberg-Sette for the services he has rendered the Committee as Rapporteur for several years and to wish him all success

(Mr. Thunborg, Sweden)

in his important new post. We also join those who before us have congratulated Mr. Carlos Moreira Garcia of Brazil on his election as the new Rapporteur and wish him the best of success.

We have become accustomed to the able and efficient assistance of the Secretariat in the work of the Committee and its Sub-Committees. The Secretariat should, however, know how grateful we are for its work. I should also like to mention the valuable work of the United Nations Space Applications Expert, Mr. Murthy, for his efficient execution of the United Nations Space Applications Programme.

The Legal Sub-Committee has for many years been discussing the draft of a moon treaty. It now seems that it might be possible to reach final agreement on this question. A moon treaty would in our opinion mean another important contribution to the legal framework for activities in outer space and we hope that it will be possible to reach final agreement on this matter during this session.

(Mr. Thunborg, Sweden)

During the meetings of the Scientific and Technical Sub-Committee and the Legal Sub-Committee this year, the question of safety for the use of nuclear power sources in outer space was discussed quite extensively. Technological development can bring with it certain risks. No doubt those risks should be brought to the lowest level possible. That also applies to space technology. When it has become evident that human life and the environment of the earth can be endangered, measures should be taken to prevent that to the greatest extent possible.

This Committee has a particular responsibility for the development of activities in outer space, and it should agree on measures to increase the safety aspects in order to meet the worries expressed by the public and show that space activities are carried out with proper consideration for humanitarian concerns.

As we have stated in previous discussions on the matter, it is the opinion of Sweden that safety measures for the use of nuclear power sources should be developed on an international level without delay. Until that has been done, we ask those States which intend to launch satellites with nuclear reactors aboard to observe a moratorium in putting such satellites into earth orbit. In order to make emergency measures possible in case of an impending accident, we further suggest that legally binding rules be worked out concerning the duty to inform all countries that could reasonably be expected to suffer damage as a result of the impact of a spacecraft, especially a satellite with a nuclear power source aboard.

My delegation believes that the discussions in the two Sub-Committees form a good basis for decision in this Committee on the question of nuclear power sources. We thus support the proposal that a working group of experts, open to all, be established to assess the relevant factors relating to the safety aspects of nuclear power sources in outer space and to work out a technical base for a multilateral régime of safeguards.

In addition, we believe that the need for information and emergency assistance should be taken care of by measures on the legal level and we support the proposals to develop additional legal rules concerning those aspects. An undertaking to notify and give emergency assistance might serve as an assurance until instruments have been developed.

(Mr. Thunborg, Sweden)

In order to contribute to the work on this matter my delegation has submitted comments to the Secretariat on the safety aspects of the use of nuclear power sources in outer space, in accordance with the recommendation of the Scientific and Technical Sub-Committee. Those comments have also been distributed as an informal working paper.

During an extra week of meetings of the Scientific and Technical Sub-Committee, a working party considered the proposal for a United Nations conference on outer space matters. My delegation welcomes the outcome of those discussions.

In the view of my delegation, a United Nations space conference can contribute to international co-operation in the field of space technology. The needs of the developing countries should be taken into special consideration so as to enable those countries to share the advantages of space technology. For that purpose the conference should concentrate on a presentation of the present and potential uses of space technology and how and where practical international co-operation is necessary.

We note with satisfaction that there seems to be agreement on the need for careful preparations in order to make the conference a success. In the preparatory work due account should be taken of the experience gained at the 1968 United Nations Conference on Outer Space and of the outcome of the United Nations Conference on Science and Technology for Development, as both events have a significance for the debate on science and technology applied to problems of development. In this context it might be useful to have a summary of the 1968 United Nations Conference on Outer Space prepared by the Secretariat as a background document.

Last year considerable progress was noted on the question of principles concerning the use of satellites for direct television broadcasting. At the meeting of the Legal Sub-Committee this year it was however not possible to register further progress. We note the recommendation of the Sub-Committee that this Committee should try to move forward and, it is hoped, conclude the work on this matter.

As a basis for a final compromise my delegation and the delegation of Canada have suggested that a principle on "consultation and agreements" be accepted to replace the texts on prior consent and duty and right to consult.

(Mr. Thunborg, Sweden)

The need for agreement has already been established in rule 428 A of the International Telecommunication Union radio regulations. That principle would also be a more specific application of the principle of international co-operation where it is stated that direct television broadcasting activities should be based on and encourage international co-operation and that that co-operation should be the subject of appropriate arrangements. In order to achieve a balanced text and provide a framework for the principles we have suggested a preamble of which five paragraphs have been worked out. The proposed texts on programme content and unlawful/inadmissible broadcasts would be superfluous with a principle on consultations and agreements. Other texts - for example the text on duty and right to consult - would also be redundant and would thus have to be reconsidered.

We believe that the plan adopted by the International Telecommunication Union in 1977 for direct broadcast satellites in the 12 GHz band has made it easier to come to a compromise on the direct broadcast satellite principles. The general provisions of the International Telecommunication Union Radio Regulations must of course also be considered in that context. Among them rule 428 A is of particular importance as it served as a basis for the 1977 plan. According to rule 428 A, a direct broadcast satellite service directed at another State requires permission from the receiving State if it is not a question of unavoidable spill-over.

Principles on direct broadcast satellites must take the provisions of the International Telecommunication Union into account; those provisions have been adopted to serve the interests of all countries. It is thus in the interest of all of us that they be strongly upheld and confirmed, and it will serve none of us if they are undermined.

I do not intend to go into detail about the proposals put forward by Canada and Sweden; they are all well known. I just wish to declare that we are prepared to work hard and try out any suggestion which is likely to lead us closer to a final compromise. With a spirit of co-operation and conciliation by all members of the Committee, we believe it will be possible to make progress on this important matter.

(Mr. Thunborg, Sweden)

The two Sub-Committees have done useful work on the question of remote sensing of the earth by satellite. In particular, we welcome the discussions aiming at a clarification of the technical factors involved in this activity, which is something Sweden has advocated for a number of years. For this purpose it is of course important that an active interplay take place between the Scientific and Technical Sub-Committee and the Legal Sub-Committee. A good example of this is the definition of primary remote sensing data and analysed information worked out by the Scientific and Technical Sub-Committee and this year tentatively agreed upon by the Legal Sub-Committee, which also in this context took up other matters in need of definition.

My delegation looks forward to the continuation of the work of clarifying all the aspects involved. A common understanding in this respect should be the basis on which the legal aspects are discussed.

My delegation believes that in the coming discussions on this matter we should be mindful of the worries that have been expressed as to the possible misuse of remote sensing, but we must also act in such a way that this new and promising technology can develop and allow an increasing number of countries to benefit from it. We feel that the best way to secure the benefits and to meet the concerns would be to strive for and stimulate organized international participation in remote sensing activities. We can stimulate international co-operation by giving the United Nations a co-ordinating role - for instance, by establishing an expert panel in order to facilitate compatibility and complementarity between different remote sensing systems. In the same spirit, we are pleased to note the co-ordination within the United Nations system through the remote sensing centres of the Food and Agriculture Organization (FAO) and the Centre for Natural Resources, Energy and Transport (CNRET).

A lot of attention has been given the question of data dissemination. In this context, we must not disregard the fact that certain States - for instance, the sensing States - will always be in possession of all data. How can we then best meet the worries and secure the benefits of this new technology?

(Mr. Thunborg, Sweden)

First, we believe - as I have just said - that remote sensing should be carried out with international participation so as to allow all countries to share the benefits from remote sensing and to avoid possible misuse of this technology. It should be our aim over the long term to ensure that remote sensing is carried out with greatest possible international co-operation, possibly through an international body or bodies.

Secondly, we believe that remote sensing data should be as freely accessible as possible for all. Sensing States already have data relating to all the countries in the world, and they will of course continue to collect data about all countries also in the future. Consequently, proposed restrictions on data dissemination are not very relevant in this context.

Furthermore, it is necessary to provide the developing countries with adequate assistance for the use of this technique, making it possible for them to interpret remote sensing data themselves. We think that such assistance is an absolute necessity and should be viewed as intimately related to the question of data availability. It is obvious that possession of data without the necessary knowledge and possibilities to interpret and use them would be meaningless.

In this context I should like to underline the importance of strengthening the United Nations Space Applications Programme in this field. Considering the importance of technical assistance, Sweden has provided financial means and experts for a remote sensing training seminar within the framework of the United Nations Space Applications Programme, which will be held in Nairobi, Kenya, in September this year.

The remote sensing centres within the FAO and CNRET should also be strengthened in order to give technical assistance in this field.

These are some general remarks. When specific items on our agenda are discussed my delegation might make some further comments.

Mr. SANCHEZ PEÑA (Argentina) (interpretation from Spanish): The Argentine delegation wishes to express its pleasure at taking part once again in a plenary meeting of the Committee on the Peaceful Uses of Outer Space, in which the fervent desire of all countries, including Argentina, to make progress in international co-operation is evident.

I should like also to take this opportunity to welcome the representatives of the new countries which have just joined this Committee.

We would also congratulate Mr. Carlos Moreira Garcia of the Permanent Mission of Brazil, on his appointment as Rapporteur of this Committee, succeeding Mr. Lindenberg Sette.

I should like now to provide some information on the activities of the Argentine National Space Research Commission.

A programme for the launching of extra-atmospheric balloons in the GALAXY series continued with the experiment that took place in February and March 1978 from the Reconquista base, in the province of Santa Fe, which was recently included in the group of balloon-launching bases in our country.

In mid-1977 the National Space Research Commission drew up a project, together with the Max Planck Institute of the Federal Republic of Germany, to carry out two flights with 12 million-cubic-foot balloons carrying a television camera, an image converter and intensifier, and a special "All-Sky"-type optical system with a 90-degree aperture for the observation of metallic magnesium ions in the ionosphere at low magnetic latitudes. That experiment will continue this year.

Moreover, the Commission has acquired telemetry equipment that will make it possible to follow up to three simultaneous flights of these balloons and launching equipment, thus considerably enhancing its previous capacity.

An Argentine team has been trained to carry out this type of experiments. Some of its members received their training at the National Center for Atmospheric Research, in Palestine, Texas.

(Mr. Sanchez Peña, Argentina)

Our work and our facilities aroused great interest among researchers from other countries when presented at the Sbarmo meeting, which, together with the meeting of the Committee on Space Research (COSPAR), was held in Innsbruck at the end of last May.

As regards sounding-rocket experiments, the Self-Propelled Projectile Experimentation and Launching Centre (CELPA) in Chamical, Province of la Rioja, is continuing its activities. That Centre is available for Argentinian and international programmes of scientific and technological interest. CELPA Atlantico, at Mar Chiquita which as is known, is sponsored by the United Nations - is also in permanent operation.

With respect to the EXAMETNET programme, which is the North American meteorological experimental network, we should stress that the National Space Research Commission has carried out a study and the planning for the installation of a meteorological sounding rocket launching base in the Antarctic to be integrated into the aforementioned programme. That institution intends to begin with a series of launchings next year from the Argentinian Antarctic Base known as Vice-Commodore Marambio, situated at 64° 14' latitude south and 56° 43' longitude west.

(Mr. Sanchez Peña, Argentina)

Celpa Atlantico will continue the weekly launching of sounding rockets to measure the profile and temperature of wind in the 20 to 60 kilometre altitude layer. The information obtained is distributed along the channels of the global telecommunication system for use by the scientific community for analysis of the circulation of the middle and high-level stratosphere.

On 5 July the second round of bids will be opened in Buenos Aires satellite image receiving and processing station, which will make it possible in just over a year to gather and distribute the information provided by the LANDSAT B and C or 2 and 3 satellites, and future satellites launched in the same series.

At present the installations and the processing equipment of the Vicente Lopez Space Centre are being operated by making use of computer tapes and pictures received from the Eros Data Centre in the United States, or information obtained from Learjet or Guarani II aircraft, these last manufactured in Argentina and equipped with cameras and multispectral sweepers to build up satellite information.

Following the policy of personnel training, the second Latin American course for remote sensors with the participation of professors from the National Aeronautic Space Agency (NASA), of the United States Geological Survey and from Argentina, took place in June 1977. A seminar on the gathering of environmental data through automatic collecting platforms took place in November 1977. Conferences took place with the participation of National Space Research Commission officials and representatives from the Ministries for Provincial Planning in Cordoba, in Argentina, in August 1977. A conference on the application of remote sensors took place, also with the participation of Argentinian professionals of the CNIE in Resistencia, in the province of Chaco, in Argentina, in October 1977. Similarly, technical advice was given to provincial Governments in the field of the application and utilization of remote sensors. Furthermore, conventions were signed with other bodies to continue the development of remote sensing applications.

(Mr. Sanchez Peña, Argentina)

In 1978 two intensive courses on remote sensors were held, the first in July in the province of Cordoba, and the second in September, in San Juan. Furthermore, a seminar was held on the application of remote sensing for geological and mining purposes, with the participation of experts from Argentina and from abroad.

We have, similarly, planned for active participation in the United Nations Conference on Technical Co-operation among Developing Countries, which will be held in Buenos Aires from 30 August to 12 September 1978. We attach great importance to that conference. Also, with the co-operation of Mr. Murthy, the United Nations expert on space applications, we are preparing a remote sensor course for next year under the auspices of the United Nations.

In the United Nations Development Programme, a joint programme is being analysed with the Secretariat of Agriculture of Argentina for harvest evaluation. For these reasons we re-emphasize our offer already expressed last year during this Committee's meeting in Austria, in accordance with which the Republic of Argentina would be willing to "offer our country as the headquarters for a regional remote sensing centre for the training of professionals in various disciplines in the exploitation and application of satellite technology designed for the detection of natural resources" (A/AC.105/PV.172, pp. 52-55) and to take the necessary steps leading to the installation of that centre.

As regards the programme for the gathering of data on environmental parameters via satellite, the Republic of Argentina has four platforms or automatic stations distributed around the territory of my country in Villa Ortuzar, Paso Rio Limay, Hotel Tronador and Chapelco. In these stations data is gathered concerning the speed and direction of wind, temperature, humidity, pressure, the level of rivers and other parameters. A considerable number of applications might result from this system, such as water resources, agriculture, weather forecasting, control of pollution, geology and so on. We have signed a convention with the National Oceanic and Atmospheric Organization (NOAA), and in particular with the National Environmental Satellite Services (NESS), and we are working to draw up a more ambitious programme in this regard in order to extend this network of platforms.

(Mr. Sanchez Peña, Argentina)

I come now to the national anti-hail programme. Following the studies carried out in the 1960s by the National Meteorological Service and the Faculty of Exact and Natural Sciences of the National University of Buenos Aires, a second stage was commenced in the 1970s, implementing a national plan against this climatic adversity; the CNIE is the body responsible for this activity. The first anti-hail campaign will begin next summer over an area of over 100,000 hectares in the province of Mendoza, which is an area severely affected by this scourge. The programme will use rockets designed and built in Argentina, and the necessary propulsion elements similarly will be produced in Argentina.

Turning to the exploitation of non-conventional energy sources, the purpose of this programme, begun in 1976, is the generation of electricity through the use of non-conventional sources of energy, particularly the sun and the wind.

In this respect, we should stress that the bases have been provided for a convention with the German Institute for Experiments and Research in Air and Space (DFVLR) for scientific and technical co-operation in this field. An Argentine official took part in the Miami International Conference on Alternative Energy Sources, held in December 1977.

(Mr. Sanchez Peña, Argentina)

Thirdly, a seminar was held in Buenos Aires on wind energy with the participation of a United Nations expert in July 1977. Approximately 30 Argentine experts took part in that Conference.

Fourthly, a national seminar was held on wind and solar energy in April of this year at the San Miguel Space Centre, which is the headquarters of the well-known National Observatory for Cosmic Physics.

Fifthly, a specialist was sent to the International Conference on Solar Energy held in New Delhi, India.

As will be appreciated, the Argentine Republic is adding daily to its store of knowledge and is obtaining practical results in all activities related to scientific research.

In the legal field, my country is concerned with questions related to outer space and is interested in achieving progress in the international régime governing the exploration and use of outer space, including the moon and other celestial bodies.

The regulations which make up this international legal order should have as their main objective the assurance of respect by the international community for the following basic principles:

First, the rule of international law in all space activities.

Secondly, the exploration and use of outer space, including the moon and other celestial bodies, should be carried out for the benefit of all countries in accordance with the 1967 treaty, to which the Republic of Argentina is a party.

Thirdly, international co-operation is an essential element in any space programme.

Fourthly, developing countries should share the benefits of science and space technology and should have access to the technology of the more advanced States.

Fifthly, States have sovereign and exclusive rights over their own natural resources.

Sixthly, States and international organizations engaging in space activities should be responsible for any damage resulting from those activities.

(Mr. Sanchez Peña, Argentina)

With respect to the draft agreement governing the activities of States on the moon and other celestial bodies, our delegation feels particularly gratified by the considerable progress that has been achieved in that area and considers that, with some minor amendments which we would be interested in discussing, the next session of this Committee could have the honour of making a further legal contribution to the international order of the future.

Remote sensing of the earth from space is one area of technical progress which could be of immediate benefit to peoples. We agree that it should be further developed, subject to the principle of full and permanent sovereignty by States over their own natural resources.

With respect to direct television broadcasting, we consider that some progress might be achieved in this field, but we believe that it is essential to maintain the right and duty of consultation.

Concerning the second United Nations Conference on Outer Space, we emphasize what was said by my delegation at the twentieth session of this Committee last year, namely, that the convening of such a conference is justified and that we would be happy to work along those lines.

At this session my delegation considers that our fundamental objectives should be to evaluate the progress that has been achieved in the scientific and technological areas since the previous Conference which was held in Vienna in 1968, to analyse the extent to which progress has worked for the benefit of all nations and to evaluate prospects of its practical application for the benefit of the developing countries. Consideration should be given to the possibility of defining an international system based on the United Nations which would make possible the rational use of the various technologies, by applying them for the benefit of those countries and regions with the least resources.

With respect to the geostationary orbit, the Republic of Argentina supports the continuation of studies in this area to be carried out by both Sub-Committees with a view to determining whether there is a need to establish a special régime to govern this question. Priority might be given to that study.

(Mr. Sanchez Peña, Argentina)

The Argentina delegation appreciates the fact that the principle of international co-operation clearly prevails at this session, as was stated at the outset, and we applaud this. Accordingly, we are prepared to proceed, by dialogue and mutual respect, to ensure the success which we all hope to achieve as soon as possible.

Mr. ALBORNOZ (Ecuador) (interpretation from Spanish): This is the first time that Ecuador has participated as a full member in the work of the Committee on the Peaceful Uses of Outer Space. We took part in the work this year of the Scientific and Technical Sub-Committee and the Legal Sub-Committee, and we should like to express our thanks for your kind words, Mr. Chairman, and for the kind words of those delegations which have welcomed new members to the Committee.

I should also like to congratulate you, Sir, on the wise and cordial manner in which you have steered the activities of this Committee to successful results. We wish also to congratulate Mr. Carlos Moreira Garcia of Brazil on his deserved election as Rapporteur.

My country has assumed this new responsibility in the international community fully conscious of the duty of service to a system of coexistence under the law, in accordance with the spirit and jurisprudence of the age of the United Nations, in order to benefit from the opportunities and the lessons offered to developing countries by the new dimension of outer space and the action of common progress shared by countries with the greatest developed resources and experience in the development of space science and technology, which has produced such spectacular results for mankind, particularly over the last 20 years.

At the same time, our country is prepared to share for the benefit of the international community, the special circumstance of its geographical situation in the equatorial zone in the processes of space research, solar energy and other research which the immediate future offers to our peoples.

(Mr. Albornoz, Ecuador)

That is why we looked with great interest to the content and the goal of this session of the Committee, and we referred to the analysis undertaken by this world body of the experience acquired over the last 10 years, during which 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, has been in force. The Treaty proved to be of importance in the development of international co-operation in the sphere of the practical applications of space technology, in harmonious action for the benefit of all countries, particularly in relation to its application for the benefit of the developing world resulting from research and services in the field of meteorology, communications, remote sensing and navigation.

(Mr. Albornoz, Ecuador)

But, precisely because of the newness of this material, the Treaty constitutes the first step towards a new and inherently changing world of study and exploitation, which makes it necessary to point out the many subjects for review which States have begun to mention at the end of the first decade of the Treaty's existence, when 75 countries have ratified it or adhered to it and when new scientific discoveries have meant that we have had to revise our concepts of the cosmos more rapidly in the past two decades than in all the previous 5,000 years of research.

One of the short-comings of the Treaty, as is known, is the lack of a definition or delimitation of outer space, or both, a topic on which the members of this Committee have begun to express their views in the Legal Sub-Committee. The process of modification or clarification of the Treaty which arises from such a definition will update and strengthen it, to the benefit of its high aims.

Safeguards are necessary in the Treaty to make sure that this immense field of science and technology does not become an ambitious field for exploitation by some countries on our small planet involving impositions of various kinds. It should instead be a new opportunity for service to the world community, to speed up the development of the countries which require it most, even though they do not have the means to make a significant contribution to the development of space technology.

It is necessary, for example, to extend the desirable principle to be found in the treaties on the prohibition of the emplacement of nuclear weapons and other weapons of mass destruction in outer space, the emplacement on celestial bodies of fortifications or military bases, the testing of weapons and the carrying out of military manoeuvres. For we all look with alarm at the growing military use of outer space; the presence of anti-satellite satellites has not been regulated, and it must be prohibited, as must the production of anti-satellite weapons, which without being themselves weapons of mass destruction constitute a military use of space. We have not begun to make progress on the important question of prohibiting the military use of satellites and remote sensing; neither has the use of nuclear energy in space been regulated. This is an urgent question and is the responsibility of this Committee. We have a clear example in the case of the fall of the COSMOS 974 in Canada and we have supported, within the

(Mr. Albornoz, Ecuador)

appropriate Sub-Committee, the proposal to establish a working group of experts in order to prevent similar situations occurring, which could have grave consequences. Authoritative representatives of various countries, large and small, have spoken on this issue in the course of the tenth special session of the General Assembly dedicated to disarmament.

We wish to congratulate the delegation of Austria on its generous effort in submitting the working paper on a draft treaty on the moon. We support the basic principles on the question: that the moon and its natural resources are the common heritage of mankind; that all countries in the world should have a fair share in the benefits obtained from those resources; and that the régime to be established must take into account the interests and needs of the developing countries.

It is in this spirit of the logical correction of old imbalances, inequalities and injustice that the equatorial countries hope that, at the time when outer space is defined and delimited, an appropriate régime will be established which will exclude geostationary synchronous orbiting, limiting natural resources with physical characteristics and technical attributes which are sui generis part of the sovereign rights of those countries and should be used for the benefit of their respective peoples, and then of the international community. The segments of such orbits which correspond to zones of the high seas beyond the jurisdiction of States should be considered and used as the common heritage of mankind. The competent international organizations should regulate their use and exploitation for the general good.

Similarly, the equatorial States which signed the Bogota Declaration in 1976 do not object to free transit of satellites over their territory when these are out of geostationary orbit. Accordingly, in view of the above-mentioned principle of sovereignty, we insist that the fixed stationing of a device in a geostationary orbiting segment of an equatorial State will require express prior authorization from the equatorial State concerned. Moreover, the stationing of a national geostationary orbiting segment by a foreign satellite generates no rights for the State which owns the satellite.

So we say that there should be prior authorization by the equatorial State ~~internationally~~ before spacecraft are sent over or enter into transit over ~~the~~ territory.

(Mr. Albornoz, Ecuador)

Recent publications report the presence of 108 spacecraft in geostationary orbit, and the concern of scientists at the possible saturation of this sector. One of the symptoms of this is the growth of mutual interference among satellite-transmitted radio signals. Such exhaustive use of this limited resource is of particular concern to the equatorial States.

Since the geostationary orbiting zone, which is extremely limited, is not part of outer space, this in no way implies opposition to the principle of the outer space Treaty, or to the principle that no heavenly body shall be subject to national appropriation. There is no legal or technical reason for considering separately the definition and delimitation of space beyond that corresponding to geostationary orbiting. Such a definition is indispensable precisely in order to establish the limits of the orbit and the beginning of outer space. Nothing in international law or in space law has limited the territorial space of States, or indicated a dividing line between space subject to national sovereignty and outer space, which is the common heritage of mankind. Beyond the geostationary orbit, whose scope appears somewhat modest, there is for the exercise of these universal laws and the application of these noble principles the fascinating realm of the cosmos, now that it has been shown that the earth is not the centre of the universe or the solar system, as man once imagined, that our sun is only one of the 200 billion suns which are to be found in our galaxy, that there are billions of galaxies which can be photographed and that beyond the confines of mystery there are the energy-filled and enigmatic quasars ^{whose light reaches us from} ~~which have existed for~~ ^{back} billions of years in our constantly expanding universe.

For all these reasons we have supported the initiative of the considerable number of States members of this Committee which have stressed the need to convene a United Nations conference on the peaceful uses of outer space. It is precisely the spectacular development of the exploration of space and, at the same time, of space technology that makes that meeting necessary. In addition to the scientific and technical aspects, it should concern itself with legal questions because of the lack of a definition and the gaps in the Outer Space Treaty. It should consider all questions related to the definition or delimitation, or both, of outer space and activities in outer space, taking

(Mr. Albornoz, Ecuador)

into account their relationship to ^{the} geostationary orbiting. This question should be dealt with in greater detail, in accordance with ^{and more extensive} earlier Reports of the Secretariat, the Scientific and Technical Sub-Committee and the Legal Sub-Committee ^{as} and the ^{ad by} recommendation of the General Assembly at its thirty-second session in resolution 32/196 of 20 December 1977.

As regards the participation in the Committee of other Member States, we have expressed to the Secretary-General our full agreement with the decision of the General Assembly in this respect, as a matter within its competence, that the Commission should facilitate the participation of representatives of States which are not members of it, as observers without the right to ^{speech} ~~vote~~, both in the plenary meetings and in the work of the Committee and its two Sub-Committees.

We should like to support the great achievements of the countries which are in the vanguard in the exploration of space and the new technology of outer space. There has been great progress, particularly by the United States and the Soviet Union, and today we have been told of the first journey to outer space by a Polish cosmonaut, which commands our congratulations and appreciation.

(Mr. Albornoz, Ecuador)

In relation to remote sensing, developing countries are particularly concerned with the implementation of the principle of prior consultation with the sensed State and its priority right to free access to the data and results obtained from such sensing, which should only be disseminated with its consent. It would also be desirable for developing countries to be invited to take part, for training purposes, in the tasks of remote sensing, from the launching to the processing and analysis of the corresponding data acquired. This is why our country will support the creation of an international organization to govern remote sensing, as has been proposed here, subject to United Nations co-ordination.

Even in relation to disarmament - and this is of concern to the tenth special session of the General Assembly on disarmament - it has been proposed to establish an international satellite monitoring centre as part of the efforts to be undertaken by the United Nations. The ^{Illustration} President of France proposed this to the General Assembly, subject to a prior study.

Ecuador supports the efforts by the international community to increase co-operation in the practical applications of space technology in areas such as communications, meteorology, navigation and remote sensing. At this time Ecuador, like a large number of countries at a similar stage of development, does not have its own technology which would enable it to construct and launch space artifacts. But we have for several years now been benefiting from the use of space for peaceful purposes and we believe that it can contribute to the development of applications through international programmes of co-operation, particularly in activities in the application of the Outer Space Treaty, such as the international telecommunications satellite (INTELSAT) and the European Space Agency.

Space activities in Ecuador have included: the use of satellite communications through the Quito earth station, of the Ecuadorian Telecommunications Institute, as a signatory and member of INTELSAT, for telephone, telegraph, telex, data and television services; the use of results obtained from meteorological and remote sensing satellites; the use of satellites for geodesic purposes; participation in feasibility studies of the Andean satellite communications system comprising five Latin American States, promoted by the Andean subregional agreement (ASETA), based in Quito; participation in studies for the application of satellite technology for tele-education through regional education programmes and work carried out with the support of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the United Nations Development Programme (UNDP); co-operation

(Mr. Albornoz, Ecuador)

in the activities of NASA. The Cotopaxi Station played an important role in the APOLLO-SOYUZ programme and is preparing to play an effective part in the programme for developing and testing space transportation systems. Last May the first high-velocity data circuit of 56 kilobits per second between Quito and Washington was activated using the satellite communication facilities of the Ecuadorian Telecommunications Institute, and at the end of this year two additional circuits will be added operating at the same high velocity.

My delegation would like to praise and thank the United Nations programme on space application for its tenacious and effective work despite its limited resources and personnel. We would like to congratulate Mr. Lubos Perek, Chief of the Outer Space Affairs Division, on his admirable work. We advocate greater identification and correlation with the operational programmes of the ^{United Nations} system, particularly the UNDP, not only because of the prospects of using the resources of the indicative planning figures (IPF) of each country, but because of the advantage of co-ordination and effectiveness implicit in the Government planning system and the role of the resident representatives. Moreover, important prospects are offered by the Fund for Agricultural Development and the regular programmes of the specialized agencies of the system. We are interested in the services of the Food and Agriculture Organization (FAO) in the field and in training activities, where its remote sensor unit, with bilateral support, such as that with the Italian Government, has proved useful.

It is important for developing countries to obtain information on the results of the LANDSAT 1:1,000,000 scale colour films which FAO is ^{compiling} reproducing, as well as technical reports on observations in countries when their respective Governments have authorized the circulation of the data in question.

Of equal importance are the research and training activities carried out by the International Telecommunication Union (ITU), the World Health Organization (WHO), UNESCO, the International Civil Aviation Organization (ICAO) and the United Nations Environment Programme (UNEP). As regards the tasks carried out by UNESCO, Ecuador participated with nine other countries in preparing the feasibility study for a regional tele-education system for the countries of South America.

In this regard we were gratified to hear that, in relation to the prospects for international satellite broadcasting there is the will to hold discussions,

(Mr. Albornoz, Ecuador)

within the Legal Sub-Committee, on the question of prior consent from the countries concerned before setting up satellite broadcasting systems or starting broadcasts of this kind directed at what might be considered the captive audience within a given country or group of countries.

All the active organs of the United Nations, working for the benefit of all peoples, and in particular the peoples of the developing world, face a challenging future; nowhere is this more fascinatingly true, however, than in the case of man's adventures in interplanetary space, which we are concerned with here.

Filled with a sense of solidarity and service, our country considers it a privilege, a welcome responsibility and a great honour to participate in this, the Committee on the Peaceful Uses of Outer Space, whose ^{very name} ~~simple purpose~~ is in itself a programme and a lofty duty.

The CHAIRMAN: We have heard the last speaker for this morning on agenda item 3, general debate.

Before adjourning the meeting, I propose to call on two delegations that wish to make brief statements.

Mr. KOLOSSOV (Union of Soviet Socialist Republics) (interpretation from Russian): The Soviet delegation plans to make its main statement later, but it cannot but join with those who have congratulated the delegation of the People's Republic of Poland on the occasion of the COSMOS flight of a citizen of that nation, Miroslav Hermaszewski.

The flight of the citizens of any State into space has, of course, a very great impact upon all aspects of the life of the society of that people. It suffices to say that in our country young boys are still playing the role of Yuri Gagarin in their games. We feel that in Czechoslovakia children are also playing at being Vladimir Remek, and we have no doubt at all that in Poland now they will play at being Miroslav Hermaszewski. Moreover, most of the boys born in our country in 1961 were named "Yuri", and, looking at the courageous face of the Polish cosmonaut which we have behind us here in the chamber, we have no doubt that this year there will be many small "Miroslavs" born in Poland.

Now we would merely like to do one thing: to wish that courageous Polish cosmonaut a successful conclusion of the programme of work entrusted to him - a peaceful programme and a peaceful, successful safe return to the earth.

May we be permitted to express, in addition, our gratitude to the delegations which have expressed condolences to us on the loss to our people of the outstanding scholar in the area of cosmonautic science, Academician Keldysh.

The last thing we would like to say relates to our agenda and to the session of the Committee itself. At a number of meetings earlier, the question came up of the feasibility and the appropriateness of preparing, during a session of this Committee, a draft resolution of the kind generally adopted at General Assembly sessions, dealing with the report of this Committee.

Now, since questions on the agenda of the Committee that we are discussing here are becoming more and more numerous and complex, many delegations represented here, working in the Missions in New York, would certainly be greatly relieved and breathe a sigh of relief if such a draft resolution were prepared by us here at this session, which would certainly facilitate the work of delegations on this agenda item during the General Assembly session.

(Mr. Kolossov, USSR)

If any delegation, let us say that of Austria or any other delegation, were to agree to prepare a draft resolution of that kind, we for our part would participate in that work.

Finally, permit me, Mr. Chairman, to congratulate you on the awards given you today, which without any doubt constitute an acknowledgement and recognition of your own great personal merits and service to the development of international co-operation in the cause of the peaceful exploration and use of space.

The CHAIRMAN: We shall revert to the organizational matter which the representative of the Soviet Union has mentioned at a later stage in our work. For the time being I have two more requests from delegations that wish to make brief statements in connexion with the space events of this morning.

Mr. JEZIL (Czechoslovakia): Any addition to the family always provides grounds for joy and for congratulations. The family of cosmonauts has acquired a new member. We are pleased to learn that a citizen of the Polish People's Republic, Miroslav Hermaszewski, has been launched into outer space to work, together with his Soviet colleague, Pyotr Klimuk, on further tasks within the joint programme of the socialist States for the exploration and conquest of outer space.

May I, therefore, with your permission, Mr. Chairman, congratulate, on behalf of the Czechoslovak delegation, the delegation of the Polish People's Republic on this historic event, which the launching of the first Polish cosmonaut undoubtedly is. We fully share the pride of our Polish brothers and comrades. The joint efforts of the socialist States in the peaceful exploration of outer space are bringing another success, and surely not the last one.

(Mr. Jezil, Czechoslovakia)

Our congratulations on the launching of the international flight of SOYUZ 30 naturally go also to the Soviet delegation. In particular, we appreciate the magnanimous decision by the Soviet Government to enable other socialist States to participate on such a broad scale in outer space activities.

We wish the cosmonauts success in the fulfilment of their mission and a happy landing.

Mr. JAROSZEK (Poland): Thank you very much, Mr. Chairman, for giving me the floor for the second time this morning. It was with the greatest of attention and satisfaction that we of the Polish delegation listened to all the kind and generous references at this meeting to the momentous event in the life of my country - the sending of the first Polish cosmonaut into outer space. Your words of appreciation and felicitation have been particularly dear to us, especially in view of the high standing and indeed exceptional position which this Committee, and you personally, Mr. Chairman, occupy in the important field of harmonizing international efforts in the peaceful exploration of outer space.

I can assure you, Sir, that your friendly statement at today's meeting, which I shall not fail to transmit to my capital, will be greatly appreciated by both the Government and the broad public in Poland. I wish to express similar sentiments of gratitude and a warm thanks to the representatives of Canada, the Netherlands, the German Democratic Republic, Sweden, Ecuador, Czechoslovakia, and especially the Union of Soviet Socialist Republics, who were kind enough to refer to the flight of Major Miroslav Hermaszewski. He himself, above all, along with the Commander of the flight, Pyotr Klimuk, will be especially happy to learn of the encouraging message coming from the Committee on the Peaceful Uses of Outer Space this morning. Once again, I want to thank you, Mr. Chairman, and the representatives.

The meeting rose at 1.10 p.m.