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COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE

VERBATIM RECORD OF THE ONE HUNDRED AND SEVENTY-THIRD MEETING

Held in Vienna, Austria,
on Thursday, 23 June 1977, at 10.30 a.m.

Chairman: Mr. JANKOWITSCH (Austria)

General debate (concluded)

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The meeting was called to order at 10.40 a.m.

GENERAL DEBATE (concluded)

Mr. REVOL (France) (interpretation from French): Mr. Chairman, I should like to associate myself with the previous speakers and state how pleased we are to meet once again under your chairmanship, which is both so friendly and so effective. This satisfaction is increased through the privilege that we have in seeing you exercise your functions as Chairman in your own country, whose proverbial hospitality has even been surpassed. I should like to ask you kindly to transmit to the Austrian Government our thanks for its invitation and for the acts of kindness which it is constantly showering upon us. We should also wish to thank in particular the President of the Republic, His Excellency Mr. Rudolf Kirchschlager, who was good enough to honour us with his presence and to extend to us both substantive and friendly words of welcome. My delegation also listened with the greatest of interest, Mr. Chairman, to your own introductory statement, which once again makes it possible for us to look to the future of our Committee. Lastly, I should like to express our appreciation also for the work done by the Secretariat, and in particular by the Space Division and by its chief, Mr. Perek.

Since I do not wish to complicate the work before us, I shall limit myself, after a rapid outline of French activities in space matters, to some essential items on our agenda.

As the Committee is aware, our country is particularly interested in space matters and has a certain number of organs of high technical competence. The National Centre for Space Studies, apart from its own research, is also exercising a co-ordinating role between the various laboratories and specialized public organs whose activities in the field of remote sensing are of particular interest both in terms of the equipment that is being used and in terms of the reception of the data, their processing and their interpretation.

The National Centre for Space Studies also has been dealing with, among other things, opto-electronic instruments, "multimission" earth-observation platforms and the designing of a ground station for the reception of remote-sensing data.

(Mr. Revol, France)

Other French institutions co-ordinated by CNES have also been interested in the possibility of developing remote-sensing methods and evaluating their applications on an experimental basis. They are providing assistance to numerous remote-sensing operations nationally, and the Laboratory of Dynamic Meteorology continues to exploit the data supplied by the 400 tracking balloons in the atmosphere, which are in the southern hemisphere.

But France is also co-operating most actively outside its borders in a whole series of other projects and is achieving positive results in this field.

In Europe it is closely associated with the AGRESTE pilot project of the European Community. This project involves various sectors of agriculture and is associated with the European space agency's METEOSAT programme and with the OTS European experimental telecommunications satellite programme, which will be used to test all the techniques necessary for a future operational satellite. It is likewise responsible for the execution of the European ARIANE launcher. In close liaison with the Federal Republic of Germany, CNES has communicated to the European Space Agency the results of a study relating to the first SPACELAB payload. Also in close co-operation with the Federal Republic of Germany, two Franco-German experimental telecommunications satellites have been put into orbit. They are called SYMPHONIE 1 and SYMPHONIE 2. Through them, an educational television programme is being beamed to developing countries. It is relayed by a relay station at Bouake, in the Ivory Coast, and by another station in Gabon. These two stations have been placed at the disposal of the Governments of those two countries. Lastly, it is also thanks to SYMPHONIE that it has been possible, still in co-operation with the Federal Republic of Germany, to establish a link between Paris and Nairobi for the nineteenth general conference of UNESCO. The high technical quality of that link was appreciated by all concerned.

At the bilateral level, France, is continuing its co-operation with the USSR, which began some time ago and has proved fruitful. Through a Soviet launcher, as was recalled by the representative of the USSR, it was able to place in orbit on 17 June -- in other words, only five days ago -- the SIGNE III satellite, which carries instruments for measuring the ultraviolet solar flux, designed by the Space Radiation Study Centre (CERS) and the aeronomic service of CNES. Other experiments prepared by French laboratories will be carried out by means of Soviet satellites. Moreover, the Space Biology Research Group has

(Mr. Revol, France)

carried out the BIOBLOC I experiment with the Medical and Biological Institute of Moscow.

In the same spirit, France is collaborating closely with NASA. The system for the location and collection of data called AGROS will be carried on board United States satellites. It is participating in the AEROSAT programme to aid air navigation and in various experiments on the solar chromosphere and is preparing an experiment which will be carried on a 1978 American probe towards the planet Venus. In liaison with NASA it is collaborating also in the ISEE project to study the magnetosphere.

France's desire to co-operate is particularly applicable to developing countries. Thus it has associated itself with the National Institute for Agronomic Research in Tunisia to monitor ecological imbalances in the arid zones of southern Tunisia.

Two French organizations will be participating in the Malian project called SAPHYR. I have already mentioned the stations in the Ivory Coast and Gabon. In the field of technical experimentation, I should like to mention the preparation, in co-operation with the Indian Space Research Organization, of a programme designed to test various elements of a future internal telecommunications system.

Lastly, I should like to recall that in 1976 CNES organized training courses in its laboratories for 33 foreign trainees, in particular from Brazil and Indonesia. These courses, which last from three months to several years, involve all types of outer-space activity.

I hope the Committee will forgive this enumeration, which may seem a bit dry and dull. Without dwelling on it any further, I should like it simply to show the important part my country is playing in space activities, particularly in those based upon international co-operation.

I turn now to the principal items of our agenda. Among those mentioned in the reports of our Sub-Committees, the question of the delimitation of outer space has always been an important one to the French delegation. A number of delegations have expressed a similar interest at previous sessions. This question is indeed of considerable scope. It involves the determination of the frontier between air law, which is based upon the concept of national sovereignty, and space law, whose major principles, as defined in the 1967 Treaty on Outer Space, are freedom and non-appropriation. This question of the delimitation

(Mr. Revol, France)

of space is becoming increasingly urgent as space activities increase and their possible applications become diversified.

For the time being the French delegation does not wish to discuss this subject in detail. As a matter of fact, we have already indicated some of the elements of our position, in particular at the last session of the Legal Sub-Committee. As a first step, we should like to see increased priority given to the question of the delimitation of space, as the Committee and its organs reach conclusions on other subjects which are accorded priority at present. Once this priority has been acknowledged, work can begin in accordance with the working methods and procedures which have been found effective.

As regards the convening of a United Nations conference on outer space, my delegation considers it a possibility which should be examined and studied with care to determine, in particular, the subjects that the conference would be required to deal with and the chances of achieving results. On that basis, delegations could then, in full knowledge of the facts, come to a decision on the desirability of convening such a conference.

However, it would be wise, before adopting a decision on this point, to await the meeting of the United Nations Conference on Science and Technology, which, since its agenda includes space matters, will make it possible to determine more clearly the specific objective and the concrete usefulness of such a conference on outer space.

(Mr. Revol, France)

Remote sensing of natural resources of the earth and its environment is within the purview of both of our Sub-Committees. Further progress has been achieved both in the definition of terms and in the elaboration of new draft principles. Several factors have been essential in this success. The first has unquestionably been the expertness and exceptional ability of the Chairmen of the two Sub-Committees in conducting the work. The second has been the remarkable spirit of co-operation and compromise of all delegations. The third and last has been the method of work followed, which consisted of first bringing out common views and then drafting principles on the basis of these common views.

In referring to the work of the Scientific and Technical Sub-Committee, my delegation notes with satisfaction that its members have managed to reach agreement on a number of difficult points whose importance must not be underestimated. Thus, taking as a basis the structure agreed upon earlier to describe the organization of a system for remote sensing and the dissemination of data obtained by satellites now in operation, the Scientific and Technical Sub-Committee has achieved an apparently satisfactory formulation of what are henceforth to be known as "primary data" and "analysed information". Similarly, the Sub-Committee has recognized the need to elaborate in terms of scientific criteria a precise definition of resolution and to determine under what conditions simple data could lead to particular applications. A study of this point has been requested of the Secretariat, and that study will certainly facilitate understanding of the problem and thereby promote its solution. A consensus was also reached in respect of the co-ordinating role to be played by the United Nations, in particular in the field of training and technical assistance.

The same desire to achieve constructive work was found in the Legal Sub-Committee, which was able to elaborate six new draft principles with a minimum of square brackets. An additional step might perhaps be achieved at the present session of the Committee. We certainly hope so, even though we recognize the complexity of some of the questions that have to be resolved. One question concerns the draft principle relating to international liability of States in remote-sensing activities. Another is the régime for the dissemination of data and information.

(Mr. Bevol, France)

In the pursuit of a solution we must always be guided not only by the principle of national sovereignty but also, in the event of the success of our work, by the advantages that mankind will surely draw from this new technique. I am thinking especially of the developing countries, which quite appropriately are placing great hopes in the opportunities they will surely gain from remote sensing by satellite. That is why France has thought it appropriate to suggest, in a spirit of compromise, a solution which, in its opinion, takes into account both the concern of scientists, by permitting the free dissemination of primary data, and the concern of countries anxious to safeguard national sovereignty, by limiting, in accordance with certain objective criteria, the communication of analysed information. It seems to us that this would be a harmonious compromise between general economic usefulness and the legitimate sensitivity that exists in certain quarters.

As for direct broadcasting by satellite, in our opinion this constitutes the most delicate and perhaps the most important point in our work because, even more than remote sensing, it is the very hinge between the over-all requirements of human freedom and intrusion into daily life of a technique for the dissemination of thought which is so powerful that it can, depending upon the use made of it, exalt or trample upon this very freedom. Accordingly France is ready to play its part in the work of the working group established for the purpose. The Legal Sub-Committee has made considerable progress on that point. At the outset, on the basis of a principle they considered absolute, that is, the free dissemination of information, a number of members wanted to set aside any regulation of direct television broadcasting from one country to another, subject only to the exception of the rules laid down by ITU at its recent conference. Others, on the other hand, anxious to safeguard State sovereignty, wished to place such broadcasts under strict rules which, if taken to extreme lengths, might prevent the free dissemination of information. Thanks to the proposals made by Canada and Sweden, those two points of view have now been brought considerably closer together, and a compromise on this point has perhaps become possible. France, for its part -- and in this respect it is very close to the Swedish and Canadian positions -- wishes to reconcile what is fair in each of these two seemingly contradictory trends. Of course

(Mr. Revol, France)

(Mr. Revol, France)

there can be freedom of dissemination of information, and France is attached to this more than any country, provided that abuses are not protected together with the right, because that would be to devalue freedom while trying to protect it. Certainly there can be discipline, but only with a view to protecting the freedom of all, and the relations between broadcasting and receiving countries should be based, we believe, upon consultations and freely negotiated agreements. Above all, we feel, it is necessary to respect both the freedom of the least developed countries and that of the countries which would be in a position to make satellite broadcasts. It is indeed an elementary principle of any social life, national or international, that the freedom of each must be limited by respect for the freedom of others. We should like to place direct television broadcasting from one country to another under rules comparable to those which apply to the institution of the right of reply under our national legislation. This means imposing upon all organs of information the strict obligation, subject to legal sanctions, to publish in an appropriate place any possible answers from anyone who might have been affected by their actions. This right, together with the right of every person to have access to all sources of information, appears to us to be one of the bases of any authentic freedom in the field of information. Why could this not apply internationally? The free dissemination of news might become illusory if it were to lead to a unilateral right for the most developed countries to transmit their direct television broadcasts, without any contradiction, to countries which are less advanced and thus more vulnerable to external propaganda. There must be a way to safeguard the freedom of these latter countries, because such transmissions might adversely affect their cultural identity and their legitimate ideals. I am thinking, *inter alia*, of religious convictions. However, it is quite evident that such protection must not be an excuse for confining freedom under a bushel. That is why my delegation, like those of Sweden and Canada, advocates co-operation, through consultations and agreements, between the broadcasting and the receiving countries.

The technical regulations of ITU are sometimes invoked in support of the assertion that any principle regulating direct television broadcasting by satellite would be superfluous, since these regulations make such transmissions from one country to another technically impossible. But it seems dangerous to us to rely on technology to protect freedoms, because that would be to confuse material factors with spiritual and cultural realities. Would it not be running the risk of actually making any future international television broadcasting by satellite absolutely impossible?

In this connexion, our perplexity as regards these technical rules is particularly strong, since the Final Acts of the ITU Conference must, before they come into force -- in any event, not before 1979 -- receive the explicit approval of Governments, and this would apply for only 15 years; furthermore, they involve exceptions which, at least temporarily, severely limit their scope. Moreover, technical progress is bound to bring surprising developments which might very rapidly render irrelevant some of the technical rules of ITU.

For all these reasons, the French Government considers that direct television broadcasting by satellite must be subject at the international level to certain general principles explicitly reserved for this type of television broadcasting and based upon negotiated co-operation between the broadcasting and the receiving State, with a view to ensuring the widest dissemination of information by balancing the freedom of the broadcaster against the freedom of the receiver.

Mr. OCHIRBAL (Mongolia) (interpretation from Russian): My delegation is pleased to join previous speakers in their words of gratitude and congratulations to the Committee and its officers, as well as to the Government of the Republic of Austria, which has extended such marvellous hospitality to us in beautiful Vienna.

As representatives have already pointed out, this twentieth session of the Committee is being held in the year of the twentieth anniversary of the launching by the Soviet Union of the first artificial earth satellite, which opened a new space era in the history of mankind. It also coincides with the tenth anniversary of the conclusion of the first Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies -- for the drafting of which, as everyone knows, our Committee deserves great credit.

(Mr. Ochirbal, Mongolia)

All this, in our opinion, gives good reason for evaluating and taking stock of the work thus far accomplished and for setting new tasks on which we should concentrate our efforts. Our delegation fully shares the appreciation expressed by other delegations for the work of our Committee, which has made a great contribution to the elaboration of basic principles governing the activities of States in the peaceful uses of outer space and has laid the foundations of a new branch of contemporary international law, namely, space law.

The Mongolian People's Republic, attaching great significance to the treaties and agreements worked out by the Committee, believes that they should be made universal and that all States should, in their activities in the peaceful use of outer space, observe the norms agreed to in those international instruments.

If we take a careful look at the road travelled since the first steps taken in the exploration of outer space, we see that this historically brief period has been replete with outstanding achievements in the exploration and use of outer space for the benefit of all mankind. It is symbolic that the way to outer space was paved by the Soviet people, the first socialist country and the birthplace of the Great October Revolution, the sixtieth anniversary of which is being celebrated this year by all of progressive mankind. The development and use of outer space technology opens up unprecedented possibilities for the solution of scientific and technical problems of great significance for improving mankind's living conditions on earth.

In view of its global nature, the exploration of outer space and the need to regulate the activities of States in this area requires close and fruitful co-operation among all States, both bilaterally and multilaterally. The cause of the further exploration of outer space and the development of broad and wide-ranging international co-operation for such purposes is favourably affected by the general improvement of the political climate and the deepening process of international détente.

In this connexion, the Mongolian People's Republic notes with great satisfaction the expanding international co-operation in the area of the peaceful exploration of outer space and the considerable increase in the number of countries actively participating therein. Of particular importance is the co-operation between the Soviet Union and the United States, the two leading

(Mr. Ochirbal, Mongolia)

space Powers, an example of which was the SOYUZ-APOLLO experiment in the joint flight of spacecraft. We expect the new Agreement between the Soviet Union and the United States on co-operation in the exploration and use of outer space for peaceful purposes to be a basis for new and increasingly impressive achievements.

The Mongolian People's Republic, to the extent of its capabilities, actively participates in scientific programmes carried out within the framework of the countries of the socialist community, particularly in the INTERCOSMOS programme. Our country is a party to the Agreement concluded in July of last year between the member countries of the Council for Mutual Economic Assistance in the area of outer-space exploration and is joining in the efforts for its implementation.

In accordance with the INTERCOSMOS programme, our country continues to participate in scientific research work in the area of space physics, meteorology, communications, biology, medicine and the remote sensing of the earth by artificial satellites. Scientific work under the ATMOSPHERA programme is being carried out, with the regular participation of the Ulan Bator and Gobi stations, which are also continuing their synchronous photographic observations under the "Large Terrestrial Chord" programme.

The Hydrology and Weather Service of the Mongolian People's Republic actively participates in work on "Investigation of the Cloud Field on the basis of Data Obtained from Weather Satellites" as a part of the co-operation between socialist countries. For several years now, a ground station of the ORBIT space communications system has been in operation in our country, making it possible to broadcast programmes over a distance of more than 7,000 kilometres, between Moscow and Ulan Bator.

(Mr. Ochirbal, Mongolia)

Moreover, preparatory work is being carried out for participation in the investigation of the effective utilization of a satellite communications system, the use of new frequency ranges, the construction of direct television broadcasting systems, the establishment of a telemetric communications system, and so on.

Our delegation has carefully listened to the interesting views put forward by representatives concerning a number of items on the Committee's agenda. In particular, we share their appreciation of the work done by the two Sub-Committees at their latest sessions in New York.

With regard to the report on the sixteenth session of the Legal Sub-Committee (A/AC.105/196), our delegation would like to emphasize in particular the progress made towards an agreement on the basic principles governing direct television broadcasting. We hope that it will be possible at this session of the Committee to achieve generally acceptable solutions, thereby completing the drafting of this important international instrument. We consider it important to stress that the conclusion of such an agreement should be aimed first and foremost at strengthening the atmosphere and climate of trust and mutual understanding among States on the basis of respect for sovereignty and the principle of non-interference in the internal affairs of other States.

With respect to the draft treaty relating to the moon, we support those representatives who are in favour of its earliest completion; the question of drafting a régime governing the exploitation of the natural resources of the moon should be made the subject of special negotiations rather than becoming a hindrance to the long-overdue general treaty relating to the moon.

One of the priority items on the Committee's agenda is, in our view, the item on the legal implications of remote sensing of the earth from space. Our delegation notes with satisfaction the agreement reached on a number of new principles at the last session of the Legal Sub-Committee. In connexion with the drafting of these principles the Mongolian People's Republic has submitted a working paper, which aroused great interest in the Committee and which is the subject of very intensive discussions. The main thrust of this document is that States participating in remote-sensing activities should respect the principle of permanent and full sovereignty of all States and peoples over their natural resources, as well as their inalienable right to dispose of them and -- something which is crucial -- to dispose of information concerning those resources.

(Mr. Ochirbal, Mongolia)

We believe that since remote sensing of the earth includes territories, and natural resources located on these territories, which are under the jurisdiction of sovereign States, the freedom of space and of space research must in no way be a justification for infringing upon the permanent sovereignty of States and peoples and their right freely to dispose of their natural resources. We also believe that extending to the space activities of States the currently accepted legal rules that are directly related to their obligations on earth would help to strengthen further the legal foundation for the exploration and peaceful uses of outer space.

Our delegation has noted with great interest both the positive and the negative comments and observations of representatives at this session of the Committee with respect to our proposal. We note that many of the arguments put forward here have already been advanced during the work of the Legal Sub-Committee, and we believe that there is no need for us to repeat our counter-arguments in the Committee. However, it is known that a great number of States members of our Committee -- and we can even say the majority -- insist upon including in one way or another this important principle governing remote sensing of the earth from space, and we express the hope today that further talks and negotiations on this principle will lead to an acceptable solution.

The delegation of the Mongolian People's Republic welcomes the timely initiative of the Legal Sub-Committee proposing that our Committee should submit to the forthcoming session of the United Nations General Assembly for its consideration and approval a resolution concerning the tenth anniversary of the entry into force of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

With respect to the question of a possible convening of a United Nations conference on outer space matters, we support in principle the recommendation contained in paragraph 114 of the report of the Scientific and Technical Sub-Committee (A/AC.105/195).

In conclusion, we express the hope, Mr. Chairman, that under your skilful and experienced guidance, our Committee will carry out the tasks entrusted to it.

Mr. FODOR (Hungary) (interpretation from Russian): I should like, on behalf of the Hungarian delegation, to associate myself with the speakers who have expressed their gratitude to the Austrian Government for having given the Committee on the Peaceful Uses of Outer Space the opportunity to hold its twentieth anniversary session in Vienna, where, like the other international organizations located here, it can enjoy traditional Austrian hospitality as it carries on its work.

The significance of the present session of the Committee was demonstrated by the fact that its opening meeting was attended by the Federal President of the Republic of Austria, Mr. Kirchschrager. The friendly address which the President delivered here reminds us, the members of the Hungarian delegation, of his recent statement in Budapest, in which the importance of co-operation between the two neighbour countries in the interest of peace and security was emphasized.

(Mr. Fodor, Hungary)

The Hungarian People's Republic, as a member of the socialist family, is taking part in the solution of problems connected with the study of outer space. That is why, in taking part in the twentieth anniversary session of our Committee, we remember with gratitude the sixtieth anniversary of the Great October Socialist Revolution, the anniversary of the founding of the Soviet State, without which there would today be no socialist Hungary endowed, as it is, with developed industry and with the most modern achievements of science and technology.

Thanks to the work of Mr. Haraszti and his colleagues, the Committee on Outer Space is familiar with the fact that our country is seriously involved in work on the problems of the peaceful uses of outer space, especially since peace and security as well as peaceful coexistence form the basis of the foreign policy of our State and of its relations with other countries. Regrettably, Mr. Haraszti was unable to take part in the meetings of the Committee at its current session because he is, at the moment, involved in the solution of other important problems. That is why it is my honourable task to represent the Hungarian People's Republic. In his absence, I would not wish to go into technical details, but nevertheless I should like, in a few words, to acquaint members of the Committee with the principal aspects of our activity in this sphere.

Work in regard to space research in our country is in full measure a component of international co-operation. Our basic activity is the INTERCOSMOS programme of the socialist countries. Of great importance also for us is participation in the INTERSPUTNIK organization. We are taking part in the work of a number of international organizations. From the point of view of the implementation of our national programme of space research, our participation in the work of such organizations as COSPAR, IAF, IAA, URSI, WMO, IUCAF and KAPG is especially significant.

Work on space research in our country is directed by a governmental committee and its specialized sub committees. The Hungarian Academy of Sciences, the Hungarian Postal Service, the Hungarian Geodetic Service, the Hungarian Meteorological Service, universities and other interested institutions are playing a very important role as leadership and scientific research organs.

(Mr. Fodor, Hungary)

We attach great importance to the Moscow Agreement of July 1976, on the basis of which we have begun the selection of Hungarian candidates to become cosmonauts and participate in USSR-INTERCOSMOS joint flights on board space vehicles of the SOYUZ type and the preparation of corresponding scientific programmes.

Intensive work is being continued on the construction of a station in that will form part of the international space telecommunications system called INTERSPUTNIK. We are studying the possibility of using data received from satellites for prospecting for new sources of energy in our country. We have embarked upon the building of a planetological laboratory. Within the framework of INTERCOSMOS we are taking part in the construction of laser radar equipment, and those working on the new Indian laser observation station in Bangalore included a Hungarian specialist.

I have mentioned these examples merely to demonstrate the active work done by the Hungarian People's Republic in the enumerated areas. In regard to the concrete work of the Committee on Outer Space at its present session, the Hungarian delegation fully subscribes to the point of view of the Soviet delegation, according to which the Legal and the Scientific and Technical Sub-Committees should co-operate more closely in the future. We also support the United Nations programme for the application of space technology. We hope that, thanks to the work of the Committee on the Peaceful Uses of Outer Space and more specifically to the work of its Legal Sub-Committee, a recommendation concerning the use of remote sensing and direct television broadcasting by satellite may be elaborated soon, to be submitted to the General Assembly at its thirty-second session.

In conclusion, Mr. Chairman, I should like to express the hope and confidence of the Hungarian delegation that, thanks to your extensive experience and skilful leadership, the present session of the Committee on Outer Space will see the solution of all the problems before it.

Mr. DELROT (Belgium) (interpretation from French): The Belgian delegation wishes first of all to express its sincere thanks to the Austrian Government for having invited the Committee on Outer Space to hold its twentieth session, which also marks the tenth anniversary of the Outer-Space Treaty of 1967, in this splendid city of Vienna.

(Mr. Delrot, Belgium)

The delegation of Belgium would wish to emphasize how appreciative it was of the honour which the Head of the Austrian State, Federal President Kirchschrager, was good enough to do our Committee, giving its opening meeting a particularly solemn character.

Our Committee owes much to Austria, not only for the humanistic and constructive spirit consistently demonstrated within it by the Austrian delegation but also for the line of eminent chairmen that Austria has given us: Ambassador Matsch, the present Secretary-General of the United Nations, Mr. Waldheim, Ambassador Haymerlé, and you, Mr. Chairman, who are maintaining such a tradition of excellence with a competence marked by delicacy and courtesy.

The Belgian delegation can assure you that it will spare no effort in order that this session, which has begun under such favourable auspices, may bear the fruits which we are all hoping for from it.

(Mr. Delrot, Belgium)

I should like to recall very briefly the position of my delegation on the items of our agenda, it being understood that we are ready to work towards reasonably acceptable compromises.

With respect to the Legal Sub-Committee, we wish to express our sincere gratitude to Ambassador Wyzner for the work done under his enlightened leadership, and to request the Polish delegation to transmit to him our congratulations and our regrets at not being able to express them to him personally.

With respect to the treaty relating to the moon, the report of the Legal Sub-Committee constitutes, as in the past, an admission of failure, notwithstanding all the efforts made by Mr. Haraszti, to whom we wish to pay a particular tribute. And yet the treaty is practically elaborated and it would be sufficient to show a minimum of realism in regard to the question of the legal régime of hypothetical lunar resources in order to unblock a situation created by doctrinal positions.

There are some who, objecting to the affirmation of an abstract principle to the effect that celestial bodies belong to the common heritage of mankind, assert that it would be difficult in the present state of international law to analyse all its consequences in a space context. But the reverse procedure, whereby we would accept and formulate certain concrete consequences of such a principle, for instance the international régime governing lunar resources, should make it possible for us to reach agreement.

With regard to the field of direct television broadcasting by satellite, where the technology will soon be operational, lawyers, in spite of long and fruitful work, are confronted with the nub of the problem, namely, what requirements must be met by broadcasts intended for a foreign country.

The text which is the result of the deliberations of the sixteenth session of the Legal Sub-Committee has the merit of offering an excellent basis for reflexion, but the square brackets it contains give rise to various readings according to the limitations and interpretations which each one is willing to impart to them.

The harmonization of contradictory theses which an analysis of this text calls for requires first of all a correct evaluation of the relative importance of the elements to be taken into consideration.

(Mr. Delrot, Belgium)

These elements are three in number: the free dissemination of information and ideas, national sovereignty and LPU planning. The importance which my delegation attaches to freedom of expression is well known. However, in the interest of fulfilling the mandate that has been handed down to us by the General Assembly and in the interest of not jeopardizing at the present stage of our work the chances of a compromise which the Working Group that our Committee has now set up is to look for, my delegation would reserve its right to explain, in the course of future deliberations, its views concerning the relative importance of the three elements that I have just mentioned.

With regard to the field of remote sensing of the earth by satellite, under the dynamic and enlightened guidance of the Chairman of Group III -- I refer to the eminent representative of Austria, Mr. Tuerk -- the results achieved by the Legal Sub-Committee are extremely encouraging.

The position of Belgium in this respect is centred upon two requirements. On the one hand, there is the need not to hamper the development of a technology which has already borne fruit and whose prospects are most promising for all States, and in particular for the developing countries. On the other hand, there must be respect for the legitimate interests of the observed States. In this connexion, principle VIII, which emphasizes such respect, and principle XI, which provides for the access of a State to data which concerns it, seem to us to be entirely pertinent.

Of course, the principles drafted by the Legal Sub-Committee still must be worked on to remove the brackets, reservations and different shades of meaning. Nevertheless, my delegation feels that the work has been well started and that, through an effort at clarification concerning the nature of the data and their criteria, as well as through a correct evaluation of the organizational modalities for their collection and dissemination, the Legal Sub-Committee will succeed in bringing its assigned task to a successful conclusion.

With respect to the definition of space, some members are disturbed by the inadequacies of space law on this subject. The Belgian delegation, for its part has proposed, on the basis of aeronomic considerations, setting the limit between air space and outer space at 100 kilometres. This proposal agrees with others based

(Mr. Delrot, Belgium)

upon different considerations. It will be for our Committee to decide whether a thorough legal discussion of this question is required in the relatively near future.

Whatever the results of such an examination may be, I find it difficult to see how the geostationary orbit could, as some would have it, be removed from outer space, which, according to the 1967 Treaty, cannot be subject to national appropriation. It would be an entirely different matter, of course, to provide for an equitable distribution of the use of a limited physical resource.

With regard to the work of the Scientific and Technical Sub-Committee, we should like to include in our thanks and congratulations the Chairman of the Scientific and Technical Sub-Committee, the eminent representative of Australia, Mr. Carver.

With respect to the report of that Sub-Committee, the Belgian delegation notes with satisfaction the great effort made by the Secretariat in providing a large number of studies and detailed reports which have greatly contributed to the advancement of the work.

Belgium fully supports the United Nations programme for space applications. It feels that the work done in 1976, in the light of the available resources, was excellent, and it has taken the necessary measures to make fellowships available for that programme in 1977.

In the field of the remote sensing of the earth by satellite, the Scientific and Technical Sub-Committee has done useful work, on the one hand, by providing a specific distinction between "primary data" and "analysed information" and, on the other hand, by recommending an extension of the functions of the Food and Agriculture Organization centre in Rome for renewable resources and the establishment of another centre for non-agricultural resources. My delegation believes that it is in this direction that an effective role could be played again by the United Nations.

With respect to the classification of data, the Scientific and Technical Sub-Committee was well advised to advocate a thorough study of the characteristics of data which could correspond to specific applications. My delegation believes

(Mr. Delrot, Belgium)

that numerical values of spatial resolution cannot in themselves provide a sufficient criterion for the classification of data.

With respect to prospects for the possible convening of a United Nations conference on space matters, my delegation has already expressed its support in principle for such a conference, provided that its objectives are clearly defined. As this question has already been on the agenda of the Scientific and Technical Sub-Committee for several years without any decision having been taken, my delegation can support the recommendation of the Sub-Committee concerning the establishment of a small working group responsible for examining the goals as well as the organizational and financial aspects of a possible United Nations conference on space matters. In particular, it would be necessary to avoid any possible duplications with the United Nations Conference on Science and Technology for Development, which is scheduled for 1979.

(Mr. Delrot, Belgium)

Those, briefly outlined, are the thoughts of my delegation on the work done at the sixteenth session of the Legal Sub-Committee and the fourteenth session of the Scientific and Technical Sub-Committee. We are convinced that at its twentieth session our Committee will succeed in providing useful guidelines for its subsidiary organs in order to make it possible for them to continue and conclude the tasks undertaken by them. We hope that in respect of some items, our Committee will be able to come closer to solutions and possibly even to reach them. It is in this conviction and in this hope that my delegation assures you, Mr. Chairman, that it will collaborate fully in order to contribute to the success of our present session in Vienna.

Mr. KANGWANA (Kenya): My delegation also would like to put on record its gratitude to His Excellency the Federal President of the Republic of Austria, Mr. Rudolf Kirchschlager, for the honour he bestowed upon our Committee by agreeing to address and open its twentieth session. His words not only were inspiring but also pointed to the direction in which our efforts should be guided -- namely, that outer-space activities should, among other things, help in tackling some of the problems affecting developing countries.

Mr. Chairman, my delegation is convinced that under your steadfast and able chairmanship, buttressed by the dedicated service of the staff of the Outer Space Division and the Secretariat in general, we shall be led to a fruitful end of our session.

My Government believes that space science and technology can and should help our societies tackle some of our social and economic problems. It is in this realization that my Government has set up the National Council for Science and Technology to form machinery to make available to the country advice upon all matters relating to the scientific and technical activities and research necessary for the proper and co-ordinated development of our country.

The collection and processing of space data and information is one of the Council's forefront objectives. In this regard the Council is helping with the co-ordination of the national co-operative effort with space countries to obtain information on the remote sensing of our natural resources, communications, weather forecasting, surveying and mapping.

(Mr. Kangwana, Kenya)

By using satellite imagery with ground interpretation, it will be possible in the near future to carry out a population census. My country is also going to host the regional centre for surveying and mapping. This centre, which is a joint project involving eleven countries of East and Central Africa, assisted by the Economic Commission for Africa, will use satellites in the implementation of its programmes. In the field of meteorology there will be a joint experiment with the United States National Oceanic and Atmospheric Administration (NOAA) in using space technology to study cyclone conditions along the east coast of Africa.

For a developing country such as ours, present and planned future use of space technology in meteorology, communication and remote sensing from space of the natural resources and environment cannot be achieved without the willing co-operation and support of the developed countries.

My delegation therefore supports and commends the work done by both the Legal and the Scientific and Technical Sub-Committees. Much progress has, we note, been made in the definition of data in remote sensing and in giving emphasis to education and training in remote sensing for the developing countries. But above all it should be possible in a spirit of compromise to work towards a common understanding so that the noble aim of our Legal Sub-Committee to bring about order in the use of space technology for development can be achieved.

My delegation would also like to commend the achievements so far made by the Expert on Space Applications in the processing of fellowships and in organizing training seminars which offer opportunities to the developing countries to learn more and to appreciate the place of space activities in development.

My country desires and urges that these activities be increased and welcomes the seminar due to be held in East Africa. It hopes that it will be given the opportunity not only to host the seminar but also to become one of the regional training centres in remote sensing in Africa.

The achievement of the International Telecommunication Union in allocating frequencies, which has been referred to and of which we were aware, has in our view gone a long way towards alleviating some of the fears we may have had with regard to direct television broadcasts. However, some developing countries such as ours believe that the principle of consultation and agreements between States should not be a blanket cover. It would be acceptable, in our view, if, in so far as the

(Mr. Kangwana, Kenya)

direct broadcast satellite is concerned, this principle relates to programme content on every occasion when a decision in that area is arrived at.

Under present conditions many of the developing countries are able only to receive information, but have no access to the selection and transmission of that information. Sometimes information disseminated without due consideration of its implications has been known to shake and even to undermine the feeble foundations of the freedoms of others across international boundaries.

It is important therefore, in our view, that while not withdrawing support from the noble idea of the free flow of information, our working group consider ways and means of safeguarding against the misuse of direct-broadcast satellites in the same way as conventional broadcasts appear to have been misused.

Every effort should be applied to arrive at norms that would guarantee balanced participation in this important field in the interests of education and of the development of our countries.

On the question of the geostationary orbit, my delegation reserves its position until the attempt to prevent the imminent saturation of that orbit can be better ascertained.

My delegation supports the idea of holding a United Nations conference on outer-space matters and also that of convening the United Nations Conference on Science and Technology. We believe that such conferences will offer more information that will be helpful in the development of our societies.

In conclusion, my delegation wishes to assure you, Mr. Chairman, of our full co-operation in the work of this Committee.

Mr. de ICAZA (Mexico) (interpretation from Spanish): At the outset, I should like to join in the expressions of gratitude addressed to the Government of Austria for its hospitality and particularly to Mr. Kirchschlager, Federal President of the Republic of Austria, for the honour he has conferred upon the Committee in addressing it at the opening meeting of its twentieth session.

In celebrating the twentieth anniversary of the launching of the first man-made object into space, the event that opened the space age, we must assess whether we have met the challenge of history and laid the necessary groundwork for this new venture of mankind to develop under the rule of law, in the interests of maintaining of peace and promoting of international understanding, and for the benefit of all States, regardless of the level of their development. At first glance, the reply could not be more positive. We are also celebrating in 1977 the tenth anniversary of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space. Three other instruments since that time bear witness to the active work of this Committee. For the first time, law has preceded fact and, so far, rules have preceded technology. However, it is characteristic of our time that there is constant and rapid change. We have already discerned that in certain areas we run the risk of falling behind technological advances and their practical application. This is serious. To legislate a posteriori means to confront de facto situations and vested interests, which makes it far more difficult to obtain agreements. The importance of the matter forces us to redouble our efforts in order to keep ahead of developments.

I should like to outline the position of the Mexican delegation with regard to the items outstanding, reserving the right to go into detail when we come to consider each of them.

With regard to the treaty relating to the moon, we believe that the moon is a common heritage of mankind and that the exploitation of its resources cannot be carried out until the establishment of an international régime regulating that exploitation. This should be stated in the actual text of any treaty relating to the moon. If that is not acceptable, it would be better for the present, to leave this matter outstanding and to concentrate our efforts on more urgent tasks.

(Mr. de Icaza, Mexico)

Under the concept of not limiting nationally the individual freedom of expression, the attempts to arrive at an agreement on the principles governing direct satellite television broadcasting frustrated. The argument of the right to information has been advanced in connexion with the crucial question of prior consultation and agreement, to which developing countries attach so much importance, perhaps because they know quite well that when the mass media belong to a single source, the freedom of choice is illusory, whereas there is a very real danger of losing their cultural identity, of receiving tendentious information, distorted by alien interests, and even the danger of interference in their internal affairs. The absolute right to inform or to express oneself does not exist. In any country this right is subject to rules and regulations, and these rules and regulations not only vary from country to country but sometimes also vary from province to province within the same State, because what is acceptable in a given community might not be acceptable in the neighbouring community, depending on variations in moral and cultural patterns. So what are the rules that are going to regulate the contents of broadcasts which will cover entire continents from space? For the sake of freedom of information, should we accept as universally valid one single standpoint, one single moral standard? This is a question. Fortunately, the ITU conference on satellite broadcasting held at the beginning of this year raised this question again and placed it within its real context. Thus there seems to be no reason why we should not reach agreement on the basis of the proposal made by Canada and Sweden. Although it is very complicated, it has the merit of striking a balance between diverging viewpoints and safeguarding the interests of the receiving States. Moreover, we know today that technically the consent of the receiving State will be necessary for direct television broadcasting.

We share the views and the concern expressed this morning by the representative of France, and we consider his suggestions positive, especially the one relating to the right of reply.

With regard to remote sensing, the Mexican delegation would like to reaffirm that the sensed State should have priority access to remote-sensing information and that the sovereignty of States over their natural resources must always be respected. According to the 1967 Treaty, space is open to

(Mr. de Icaza, Mexico)

exploration and exploitation by all States and there is freedom of access to all regions of celestial bodies. However, we have heard here that as of 1 May this year, 20,032 satellites and 67,511 pieces of debris are revolving around the earth. This leads us to understand the concern of some equatorial countries that the geostationary orbit should not in the near future become a sewer wherein debris would be dumped, thus making it difficult to use for everyone, especially States that are not yet in a position to use the geostationary orbit. Like you, Mr. Chairman, we believed that we should seriously consider a plan for more effective and more equitable use of this limited resource.

Finally, my delegation believes that a world conference on space problems should be held only when we have a reasonable certainty that such a conference would achieve specific results.

Mr. AGUILERA (Colombia) (interpretation from Spanish): At the outset, the Colombian delegation would like, through your worthy person, Mr. Chairman, to thank the United Nations Committee on the Peaceful Uses of Outer Space for enabling us to make statements on the various items on the agenda of this session. It is a signal honour for my delegation to be able to participate in such an eminent gathering, which is very patiently carrying out the difficult task of drafting the rules of the new field of space law.

The Colombian delegation would more specifically like to refer to the item concerning the geostationary orbit, which was raised in the Legal Sub-Committee at its last session in March. Before considering the nature of the geostationary orbit from a scientific and legal standpoint and before analysing the scope of 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, my delegation would like to bring to the attention of this Committee some facts relating to the positions held by equatorial countries and to highlight some of the principles underlying those positions.

(Mr. Aguilera, Colombia)

In his statement before the thirtieth session of the United Nations General Assembly in 1975, the Minister for Foreign Affairs of Colombia, Mr. Indalecio Liévano Aguirre, referred to the item, specifying the position of our country. The Colombian position was subsequently reaffirmed before the General Assembly in 1976, and there the delegation of Ecuador, in turn, clearly declared that any definition of outer space should take account of the sovereignty of the equatorial States over the segments of the geostationary orbit corresponding to their respective national territories.

In view of the fact that ITU had convened for January 1977 a World Broadcasting Satellite Administrative Radio Conference with the aim of planning the 11.7 to 12.5 GHz frequency bands in the geostationary orbit and allocating orbital positions throughout its span -- which would damage the sovereign interests of the equatorial countries -- the Government of Colombia, recognizing the urgency of the matter, invited the other equatorial States -- Brazil, the Congo, Ecuador, Gabon, Indonesia, Kenya, Somalia, Uganda and Zaire -- to a conference in Bogota in order to adopt a common position for the safeguarding of their fundamental rights. Thus the first conference of the equatorial countries was held in Bogota from 29 November to 3 December 1976. Its results have been recorded in a document called the "Bogota Declaration", which states some of the principles underlying the position of the equatorial countries with respect to the geostationary orbit. These countries, as of that moment, resolved to defend jointly, on behalf of their respective peoples, their national sovereignty over this natural resource.

During the ITU Conference held in Geneva from 5 January to 15 February 1977 the delegation of Colombia made the following statement at the first plenary meeting:

"It is premature for this Conference or any other international body to debate matters pertaining to the geostationary orbit without having reached agreement with the equatorial countries with respect to the status of the segments above their respective territories. Consequently, should the Conference decide to discuss potential allocations of the geostationary orbit for specific services, it will be able to do so only with regard to those segments of the orbit above the high seas. On this basis, the equatorial countries would be

(Mr. Aguilera, Colombia)

willing to examine the criteria of frequency sharing for the 11.7 and 12.5 GHz bands, or any other bands, between the satellite-broadcasting services and other services, as well as to discuss the methods and models proposed for the planning of the geostationary orbit in order to perfect formulas which would guarantee and safeguard the equitable and rational use of segments situated in areas beyond national jurisdiction."

Several delegations sharply criticized our thesis, alleging that the Conference was not competent to recognize national sovereignty over the geostationary orbit, to which we replied that sovereignty does not require acceptance by other States in order to exist and that we would never enter into negotiations concerning the recognition of sovereign rights that existed prior to recognition; for that reason, furthermore, we consider that the World Administrative Conference was not competent to allocate orbital positions in segments belonging to equatorial countries without the prior agreement of those States.

Within ITU Region 2, corresponding to the American continent, the Conference failed to fulfil its purpose, in that there was no orbital allocation. It should be pointed out that in working documents the countries of that geographical zone agreed that the principles of planning in that region did not affect any sovereign rights that might exist; thus the position of the equatorial countries was respected.

In signing the Final Acts of the Conference, the equatorial countries signatories of the Bogota Declaration -- with the exception of Indonesia, which did so separately -- submitted the following reservations:

"(1) The delegations of the aforementioned countries officially declare that they do not accept -- and that consequently they are not bound, as a result of signing the Final Acts and under any circumstance by -- the resolutions, agreements or decisions of this Conference relating to the location of geostationary satellites in the segments of the orbit over which those States exercise sovereign rights.

"(2) The location of such geostationary satellites shall require the prior permission of the respective equatorial country, and their operation shall be subject to the provisions of the national laws of the competent State.

"(3) The equatorial States reserve their right to take whatever measures they consider appropriate to safeguard and ensure respect for their sovereign

(Mr. Aguilera, Colombia)

rights over the segments of the geostationary orbit corresponding to their respective national territories, in conformity with the constitutional and legal norms in force in each country.

With respect to the basic principles underlying their position, and having asserted the existence of their sovereign rights over the segments of the orbit corresponding to their respective national territories, the equatorial countries consider that the legal régime applicable to this one should take account of the following:

(a) The sovereign rights possessed and exercised by the equatorial countries should be understood to have the aim of bringing authentic benefit to their respective peoples and to the international community, unlike the current situation, in which the orbit is used primarily for the benefit of the more developed countries.

(b) The segments of the orbit above the high seas beyond national jurisdiction shall be considered as the common heritage of mankind, and for that reason the competent international bodies shall be able to regulate their use and exploitation, so long as it is for the benefit of the world community.

(c) The equatorial States do not object to the free orbital and communications transit required by the satellites contemplated and authorized by the International Telecommunications Convention when those satellites pass through their territorial skies in gravitational flight outside the geostationary orbit.

(d) Any artifact to be emplaced above an equatorial State's segment of the geostationary orbit shall require prior and express authorization on the part of that State, and its operation shall be regulated by the national law of that State. It should be understood that this authorization is quite different from the co-ordination that may be requested in the case of interference between satellite systems specified in the radio communications rules of ITU. This authorization is based on the right of States -- enshrined in the provisions of international regulations now in force -- to regulate the operation of fixed radio communications stations in their territories.

(e) The equatorial countries do not acquiesce in the deployment of satellites in their geostationary orbit segments and declare that the presence of satellites of other countries does not generate future deployment rights and that their use will have to be authorized by the country exercising sovereignty over that segment.

(Mr. Aguilera, Colombia)

I turn now to the question of the sovereign rights of Colombia over its national space. The delegation of Colombia, in referring to the geostationary orbit, will adhere specifically to the provisions of report '04.3 of the International Telecommunication Union (ITU), which was unanimously adopted within that agency and which refers to the terms and definitions relating to space radio communications. Thus, we shall be able to avoid any misunderstanding and any interpretation not in line with what we are presenting.

By the term "geostationary orbit" we mean a circular orbit on the equatorial plane, where the sidereal period of revolution is equal to the sidereal period of rotation of the earth and the revolution is in the same direction; that is, any satellite would be geosynchronous and geostationary once a situation making possible the manifestation of this natural phenomenon (gravitation, velocity, altitude and so on) is brought about. Of all the orbits that might exist, the only one offering these characteristics and permitting the deployment of satellites which are relatively fixed for any terrestrial observer is the so-called orbit of geostationary satellites, whose location is precisely known and which is constantly used because of the unique characteristics it possesses. This unique natural phenomenon appears in the equatorial plane, and geostationary satellites are emplaced precisely in fixed locations within the territorial sky of equatorial countries, a fact which fully warrants the concern of these States.

How can sovereign States be expected to permit that, without their control or prior consent, fixed radio communications should be placed within their national space, regardless of the altitude at which they are situated? Herein lies a fundamental part of the problem. When countries such as ours refer to the orbit and to their rights, they do so with the understanding that that orbit, within their national space, is the only place in the universe where satellites which remain fixed in relation to their territories can be placed.

Because the use of the geostationary satellite orbit may affect us directly and, moreover, jeopardize the very existence of our States, we have been obliged to exercise fully the sovereignty accorded us by international law as well as by the provisions of our domestic law.

(Mr. Aguilera, Colombia)

Now I turn to the question of the geostationary-satellite orbit as a natural resource. By the natural characteristics found in that region of space, the geostationary orbit should have a special régime within the law which is gradually coming to regulate space activities.

For Colombia, as for all equatorial countries, the geostationary orbit, by virtue of international positive law, is a limited natural resource, in this case in keeping with article 33, paragraph 2, of the International Telecommunication Convention signed in Malaga in 1973, which states:

"... members shall bear in mind that radio frequencies and the geostationary satellite orbit are limited natural resources, that they must be used efficiently and economically ...";

For this reason, the equatorial countries, in keeping with the letter and spirit of article 33 of the International Telecommunication Convention, have declared that

"The sovereign rights possessed and exercised by the equatorial countries should be understood to have the aim of bringing authentic benefit to their respective peoples and to the international community."

It is our duty to exercise these rights on behalf not only of our people but also of the international community.

The delegation of Indonesia in the Legal Sub-Committee of this Committee very appropriately referred to this aspect and emphatically rejected the dubious principle which in practice governs this matter -- that of "first come, first served".

If we wish to comply with the provisions of the International Telecommunication Convention of 1973, we have to accept that the geostationary satellite orbit is a limited natural resource.

I turn now to the question of Colombia's sovereign rights over this limited natural resource. In calling the orbit a limited natural resource, the Colombian delegation would like to reaffirm

"... the right of peoples and nations to permanent sovereignty over their natural wealth and resources, which must be exercised in the interest of their national development and of the well-being of the people of the State concerned",

as enshrined in United Nations General Assembly resolution 2692 (XXV).

(Mr. Aguilera, Colombia)

Moreover, the Charter of Economic Rights and Duties of States, adopted and proclaimed by the United Nations General Assembly, reaffirms the existence of sovereign rights of any State over the natural resources within its territory.

Therefore, so long as there is no norm of international law clearly defining what is meant by outer space, the equatorial States, exercising their full and exclusive sovereignty as subjects of international law, will be able to delimit their national space by domestic legislation and therein to exercise the rights and have the obligations established by their laws. Hence, if the geostationary orbit is a natural resource and belongs to the national space of an equatorial State, the exercise of rights over it is fully justified, in keeping with the provisions of United Nations General Assembly resolutions 2692 (XXV) and 3281 (XXIX).

In the specific case of Colombia, article 1,777 of our Commercial Code defines what is meant by national natural space, stating that our country may exercise sovereign rights over the geostationary satellite orbit, subject to the international treaties signed by Colombia.

I turn now to the question of the sovereign rights of Colombia over the geostationary satellite orbit and the Outer-Space Treaty of 1967. With a view to contesting the position taken by Colombia and the other equatorial countries which signed or have acceded to the Bogota Declaration several delegations have advanced as a crushing argument -- contradicting the fundamental principles of the law of treaties -- the provisions of article II of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space. The correct principle stated in that article is, unfortunately, totally inoperative so long as there is no definition of "outer space"; the formulation of that definition is a task which was entrusted to this very Committee. Until we have that definition, those Powers possessing the necessary economic and technological capabilities to explore and exploit space will have a veritable licence to do as they please, taking advantage of the great legal vacuum found in this article. We understand full well why some countries are not particularly interested in arriving at such a definition.

(Mr. Aguilera, Colombia)

We do not believe that the geostationary orbit can be regarded as an integral part of outer, or extraterrestrial, space; it is so terrestrial that, according to the statement of the representative of the United States, any change in the velocity of the earth's rotation will have as a consequence the modification of the existing geostationary orbit and the creation of a new one adapted to the new natural conditions imposed by the earth.

But even if that were the international community's interpretation of article II of the 1967 Treaty, that interpretation would not bind Colombia, for reasons that will appear elementary to the members of this Committee in connexion with the law of treaties.

First, the 1967 Treaty does not bind Colombia as positive international law. The provisions of that Treaty, so long as it has not been adopted through a law enacted by the Congress and ratified by the Colombian Government through the deposit of an instrument of ratification, in no way bind the Republic of Colombia. Even if the 1967 Treaty had, in its article II, expressly mentioned the geostationary satellite orbit as an integral part of outer space, that provision could not be cited as establishing a supposed denunciation of the Treaty, since, as we have seen, Colombia is not bound by this norm of positive international law. But as things now stand, invoking article II is even more inappropriate as there exists no definition of outer space that would enable us to determine whether the geostationary orbit is a part of it or not.

Secondly, the provisions of the 1967 Treaty do not bind our country as peremptory norms of general international law. We have just made it clear that the provisions of the 1967 Treaty do not bind us as norms of positive international law. In view of the insistence of certain countries on applying article II of that Treaty to States which have not yet ratified it, one might suppose that those delegations wish to give the Outer-Space Treaty a legal nature different from the norms of the conventional type governed by the principle of pacta sunt servanda. We might well wonder whether or not the legal norms enshrined in that Treaty constitute peremptory norms of general international law whose binding nature is independent of the formal conclusion of an international treaty concluded in keeping with the principles of international law. In our view, the principle of national

(Mr. Aguilera, Colombia)

non-appropriation of outer space through claim of sovereignty use or occupation cannot be considered as a peremptory norm of general international law in light of the definition contained in article 53 of the Vienna Convention on the Law of Treaties, since the international community did not endow it with such a nature in drawing up that Convention.

Thirdly, the provisions of the 1967 Treaty do not bind the country as norms of customary law. In his statement before the Legal Sub-Committee of this Committee, the representative of the United States referred to international practice in this matter in order to refute the existence of sovereign rights over the geostationary satellite orbit. Without repeating the comments made previously on the question whether the 1967 Treaty is binding on Colombia, we should like to analyse that argument, according to which the practice followed by States on the basis of what is laid down in that Treaty would refute any claim to sovereignty or sovereign jurisdiction over the geostationary orbit. International practice, even though it develops conventional norms in force between two or more States, does not automatically create international commitments unless that practice, a purely material fact, has been accepted and recognized by States as establishing a binding legal norm. In the case that we are considering, any practice derived from the 1967 Treaty, if indeed it can be proved to exist according to international law, cannot be considered an international custom binding on the Republic of Colombia, for the following reasons: practice would develop a provision of positive international law that does not bind my country as a conventional norm. My Government, thus far, has not expressly or tacitly recognized the existence of any material practice as law applicable in this matter and furthermore, the official position of my Government in all its international actions has been very clear and emphatic in rejecting the argument advanced. In sum, the Republic of Colombia considers that there is no norm of international law, whatever its nature, that could be used as an instrument in an attempt to deny the sovereign rights of the equatorial countries.

For the reasons just given, my delegation would like to stress the need for arriving as soon as possible at a universal consensus on the delimitation of outer space.

(Mr. Aguilera, Colombia)

As a contribution to the work of this Committee, we deemed it appropriate to propose two possible criteria which fall outside the traditional scheme but which might be useful during the drafting of a definition of outer space.

As its name indicates, outer, or extraterrestrial, space should be considered to begin in a zone where the forces deriving from the physical existence of the planet Earth do not constitute the dominant element; or, if the difficulty in defining the zone makes it necessary to seek an alternative, we could consider outer space to be that space which surrounds the earth and encompasses the universe. Within this concept of outer space, some exceptional legal régimes would be applicable, for example, to air space and to the area of the geostationary orbit.

Either one of these two concepts would enable the international community to avoid having definitions of different spaces which might soon become obsolete, as is the case today with the concept of air space.

Finally, in connexion with the item on direct television broadcasting by satellites, I should like to endorse what was stated by the representative of France but I should also like to draw the attention of this Committee to the problem of what is called "involuntary spill-over" in Geneva and by technical experts. In our view, this phenomenon of involuntary spill-over raises additional problems which should be borne in mind.

In conclusion, Mr. Chairman, we should like to convey through you to the Government of Austria and to His Excellency President Kirchschrager the gratitude of the Colombian delegation for the kind welcome that was extended to us in this historic city.

Mr. VALDEZ (Ecuador) (interpretation from Spanish): Mr. Chairman, I should like to thank you and, through you, the Committee on the Peaceful Uses of Outer Space for the opportunity given to my country to participate in the general debate held in this august body on the agenda items of the twentieth session.

For the countries situated along the equator, which divides our planet into the northern and southern hemispheres, the matters entrusted to this Committee are of crucial importance. A few minutes ago the representative of the Republic of Colombia explained in a crystal-clear and precise manner the bases for the Governments of the equatorial States subscribing to the Bogota Declaration of 3 December 1976 to proclaim and defend on behalf of their respective peoples the sovereignty of their States over the synchronous geostationary orbit, which is a limited natural resource whose value and importance for the equatorial countries is increasing with technological progress and with the growing needs and requirements of modern means of communication.

I need not repeat here what has been said by the representative of Colombia, because he amply covered this matter in the first part of his statement, presenting relevant and appropriate arguments which are well known to this Committee and fully appreciated by it.

The Government of my country supports and endorses that part of the statement of the representative of Colombia, and we should simply like to add that, in conformity with the solemn commitment subscribed to between the Heads of State of Ecuador and Colombia on 25 February last, at the Presidential meeting held on the Putumayo River, the two countries are firmly united in defending their sovereignty over the synchronous geostationary orbit.

That orbit can in no way be considered an integral part of outer space, since the factors that account for its existence -- gravitation, velocity, altitude, sidereal period of revolution equal to the sidereal period of rotation of the earth, and so forth -- are predominantly dependent upon and determined by the natural phenomena associated with the planet Earth and the effects of its rotation.

Since the synchronous geostationary orbit is not part of outer space, it evidently cannot be made subject to the provisions of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space -- not only in view of the predominant dependency of the synchronous orbit on

(Mr. Valdez, Ecuador)

earth phenomena but also because that Treaty does not contemplate a definition of what is meant by outer space and has not established the delimitation of space, a question which, even 10 years after the signing of the Treaty, has not been clearly defined and which is, in fact, one of the most difficult tasks entrusted by the international community to this Committee.

At the sixteenth session of the Legal Sub-Committee, which was held in New York in March and April last, the representative of Ecuador recalled what had already been said at the thirty-first session of the United Nations General Assembly in 1976 by the Foreign Minister of my country, pointing out that any definition of the national sovereignty of States in outer space should be related to and take account of the recognition of the unique characteristics of the synchronous geostationary orbit. He also recalled that the sovereign rights of the equatorial States over it have the aim of obtaining real benefits for their respective peoples and for the international community in general, with the authentic participation of the developing countries. He stated that the orbital segments situated above the high seas beyond the limits of national jurisdiction should be considered the common heritage of mankind and that their use and exploitation through geostationary satellites deployed in that sector should be for the benefit of the entire international community. The proclamation and claim of sovereignty over the synchronous geostationary orbit on the part of the equatorial countries do not hinder the free orbital and communications transit necessary for satellites authorized by the International Telecommunications Convention, which cross their territorial skies in gravitational flights outside the geostationary orbit.

The representative of Ecuador added that vehicles to be emplaced in a fixed position on an equatorial State's segment of the geostationary orbit would require the prior authorization of that State and that their operation would be regulated by the relevant national laws, by virtue of the law, recognized in currently valid international provisions, that governs the authorization by States of fixed radio-communications stations within their territories.

(Mr. Valdez, Ecuador)

Finally, the same representative of my country added that the existence of satellites of other countries in equatorial States' segments of the geostationary orbit does not generate any right of future deployment and that their use would have to be authorized by the country exercising sovereignty over the segment in question.

I have deemed it necessary to repeat before the plenary meeting of this Committee the arguments that I have just presented because I think they should be very carefully borne in mind in the crucial work of the current session, in order that the fruits of the Committee's work may contribute to the growing participation of the developing countries in the mastery and use of the advanced and sophisticated technology which has thus far been the exclusive province of the developed countries. It is only in this way that the United Nations and its specialized agencies will be able to carry out fully the lofty tasks of working for peace and the well-being and progress of the international community as a whole.

The CHAIRMAN: I now call on the representative of the International Bank for Reconstruction and Development.

Mr. DREWES (International Bank for Reconstruction and Development (World Bank)): The World Bank would like to express its appreciation for being invited to attend this twentieth session of the Committee on the Peaceful Uses of Outer Space, so well organized by the Committee and made so hospitable by the Government of Austria.

While I am not a representative of a nation involved in the use of remote sensing but a technical representative of a financial lending agency, the International Bank for Reconstruction and Development, commonly referred to as the World Bank, it is indeed an honour and a pleasure to be given the opportunity to brief the Committee on the activities in the remote-sensing field in which the World Bank has become involved. Although I do not want to go into the economics of the Bank's operations, where loan funds now approach about \$3 billion per year in the agricultural sector alone, the value of the use of remote sensing in this field may readily be appreciated.

(Mr. Drewes, World Bank)

During the past three years, the World Bank has taken an active interest in the use of remote-sensing data for project development work in three phases of operations: (a) in project identification -- that is, to review vegetation/settlement patterns before selecting an irrigation or agricultural project; (b) in project preparation -- that is, to determine the quality and the area available for development or the availability of water when such is needed; and finally (c) in project supervision -- that is, to determine the length of roads or irrigation works, canals or dykes that might have been completed on which funding can be made.

The Bank is utilizing such remote-sensing data in more than three or four dozen projects, many small, rather simple analytical studies and several large resource evaluation investigations. The major ones include projects in a number of countries, which I shall now list:

In Bangladesh, a major cartographic and land-use updating project; in Burma, a regional planning project; in the Guianas, in South America, a hydrologic study of offshore mudslings -- the mud carried in the ocean waters offshore; in India, a land-use study; in Indonesia, a \$46-million nationwide mapping programme, probably one of the largest single mapping programmes in the world at this time, supported by \$26 million in Bank funds and about \$20 million in funds of the Canadian International Development Agency, commonly known as CIDA; in the Philippines, a resource inventory programme; in the Sudan, a drainage project; in Thailand, a basin irrigation project; in the Upper Volta, a resettlement project; in Zaire, a land-use investigation for resource evaluation; and so on.

Minor projects such as pollution studies related to hotel development in the Gambia or port development in the city of Manila are carried out with Bank funds directly. Major projects are funded by remote-sensing activities included in specific project loan funds. For instance, Kenya's \$55-million forest industry project has \$330,000 set aside, incorporated for remote-sensing inventory work.

In addition to the operational type of projects I have listed, several other general systematic studies have also been carried out. Many members may be acquainted with the LANDSAT Index Atlas of the Developing Countries of the World. Mr. Toth of the Secretariat might illustrate what I am saying by showing one of the pages of the book with a pink area indicating LANDSAT coverage. While members may have difficulty seeing it, it illustrates every individual image taken by the

(Mr. Drewes, World Bank)

LANDSAT system. It is published by the Bank, and it is readily available to all countries. It permits the user readily to identify what LANDSAT imagery is available, what cloud cover exists over the image area in question and exactly what month and what year each image was taken. It is presently contemplated that the atlas will be updated once LANDSAT-3 has been made operational. It might be noted also that the Orbit/Row geographic co-ordinate system employed in this Atlas has since 6 February of this year been included in the NASA image edge annotations, which greatly facilitates the work of overseas technicians in ordering LANDSAT imagery. No longer do they first have to write for a computer print-out from the PROS Processing Centre. They can point directly to the orbit number and the row number and ask for an image of, say, March 1975, or August 1975.

The second study, which is nearing completion, is the publication of a manual entitled The Uses of Remote Sensing Systems in Development Projects. This 400-page document includes more than 60 colour plates, and it attempts to illustrate the use of remote sensing from both aircraft and satellite, in general terms comparing costs and equipment to help carry out development projects. The positive aspects and the limitations of remote-sensing systems are treated and illustrated in a series of project case studies in which the Bank has been involved and in which remote sensing has been utilized.

The third type of systematic study in which the Bank has been involved includes the systematic processing of imagery and other services to countries on a pilot-project basis. One such pilot project was carried out by the state of Orissa, India, with technicians from that state and experts from the National Remote Sensing Agency of India, which is located in Hyderabad, India. Together with a World Bank team, the land-use resources of the state were ground-checked by helicopter, fixed-wing aircraft and field vehicle surveys. The study especially focused on the cut-back or ever-decreasing forest cover of the country and on evaluating and demarcating the single-cropping rice paddy areas versus the double-cropping rice paddy areas. A copy of the Orissa map has been passed out to members. It might be noted that the green areas illustrate the paddy zones. Review of the green paddy areas shown on the Orissa map in comparison with the same areas as shown on the inset, on the lower right side of the copy of the map distributed to representatives, will readily show the differences in the cropping areas. It should

(Mr. Dreves, World Bank)

be recognized that the copy before members is a tremendous reduction of the map, which, in its original working size, at the scale of 1:50,000, measures more than 10 square feet in size when mosaicked together. A total of 13 LANDSAT scenes of the wet season and 13 of the dry season were tape-analysed by computers. Province boundaries were digitized, cultural map data of roads, railroads, towns and so on, were overlaid, and acreage figures for 13 different land-use categories were obtained on a province basis. The statistical data are available for review by those interested in them.

The above is, I think, a good example of a project that was carried out from beginning to end, from satellite acquisition to the economic analysis. In a similar fashion, 14 LANDSAT scenes were tape-analysed, mosaicked together and put in lithographic form -- a rather difficult task, since single-colour separated multiple negatives must be mosaicked together in three dimensions, rather than two, as is done in normal panchromatic or colour mosaics. The Burma map, which again Mr. Toth might illustrate, was done at a scale of 1:1 million in its lithographic form. It is also enlarged for field-survey ground checking by field vehicles to the 1:100,000 scale, particularly to observe and study rubber-plantation areas and rice-paddy production zones. They have had a tremendous cutback in production in the shrimp industry, for instance, one of the reasons being that paddy lands have been extended right down to the salinity zone of the oceans in the delta area of the river, consequently reducing the sea-bed areas for the shrimp industry by the cutback of mangrove forests.

This study was done in an area having available very few up-to-date resource maps with which to justify basic development projects. In connexion with such evaluations of image-processing methods and the evaluation of processing equipment, I might mention that some commercial firms have now even managed to print imagery in map form directly from satellite tapes, thus avoiding going to the expensive film-processing systems and the expensive colour-separation processing. I am holding up an example for those who might be interested in seeing it.

(Mr. Dreves, World Bank)

I repeat that it is going from satellite tapes directly to a lithographic form, saving thousands of dollars in film processing and colour separation work. Hundreds of maps can be run off at a nominal fee for the use of the many technicians interested in this kind of product overseas.

In summary, the World Bank has found the new techniques and remote sensing methodology most useful, time-saving and cost-effective in its development work and will undoubtedly expand the use of such work and imagery in the future.

The meeting rose at 1 p.m.