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COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE
VERBATIM RECORD OF THE ONE HUNDRED AND SIXTIETH MEETING

Held at Headquarters, New York,
on Wednesday, 23 June 1976, at 3 p.m.

Chairman: Mr. JANKOWITSCH (Austria)

General debate (continued)

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The meeting was called to order at 3.25 p.m.

The CHAIRMAN: For the benefit of those of you who may have noticed the absence of précis-writers and verbatim reporters, I should like to announce that this meeting is being recorded by mechanical means, as our verbatim reporters have been called to service the meeting of the Security Council which is now in progress. This change in technique will only slightly delay the issuance of the verbatim records of this particular meeting.

I have also been asked to tell you that any desired corrections to the list of participants should be submitted to the Secretariat by the close of this meeting.

GENERAL DEBATE (continued)

Mr. REVOL (France) (interpretation from French): Mr. Chairman, allow me first of all to express the satisfaction of my delegation at seeing you presiding once again this year over the deliberations of the Committee on the Peaceful Uses of Outer Space. There can be no doubt that under your guidance the Committee, in the course of this session, shall discharge the mandate which has been entrusted to it to contribute to the development of international co-operation, either through specific undertakings, or through co-ordination of the tasks of the Scientific and Technical and Legal Sub-Committees, or through the exchange of information concerning the different national programmes.

I should like to begin by taking up the last aspect, offering certain indications as to space activities conducted by France in the course of the past year --- activities which to a considerable extent fall within the category of international co-operation.

The portion of expenditures allocated to our efforts within a bilateral or regional framework have been more significant this year than in the past, taking into account the trend which began in preceding years.

As to the activities themselves, the following were among the most outstanding:

The launching, by two Diamant BP-4 French rockets of the Castor and Pollux technological research satellites and the D2B Aura solar and stellar astronomical research satellite; the launching in June 1975, by a Soviet rocket of the SRET-2 satellite designed to carry out technological studies concerning the behaviour in space of different components; the launching, in August 1975, by an American Thor-Delta rocket, of the second French-German Symphonie telecommunications satellite.

With respect to the last two operations, I wish to point out that the French engineers and technicians were afforded an opportunity to determine the quality of services provided by their Soviet and American colleagues, and I should like to avail myself of this opportunity to express appreciation to the Soviet Union and the United States for their participation in these successful undertakings.

The increase in co-operative activities nevertheless has not prevented the national French programme from becoming involved in several interesting activities.

First of all, we have the Castor satellite, to which I have already referred, which has made it possible to determine proper operation in space of an original instrument --- a micro-high-precision accelerometer --- and to utilize this instrument for geodesy and aeronomy experiments. Launched by the same Diamant rocket, the Pollux satellite was designed specifically to try out, in space flight conditions, a small hydrazine propellant, the operation of which proved to be excellent.

The D2B-Aura satellite carried out four astronomical experiments in space for the study of solar, stellar and galactic rays in ultraviolet light. That measuring equipment is still in operation, and the interpretation of the results is in progress. The SRET-2 technological satellite, which was launched at the same time as a satellite of the Molnya series, has made it possible to test successfully the prototypes of various thermo-control equipment to be used within the framework of future projects.

(Mr. Revol, France)

We also have the balloon launchings, which have been carried out at the rate of approximately 80 per year, from the Aire sur Adour, Gap and Kourou bases, with a success rate of 95 per cent, benefiting French and foreign scientific laboratories.

(Mr. Revol, France)

France has mastered a flexible, relatively low-cost technique involving the use of sounding balloons and approximately 700 devices carrying tons of scientific equipment have been used in the stratosphere. France has likewise been able to carry out the first large-scale meteorological project using a flotilla of sounding balloons -- 489 EOLE devices have plied the heavens in the southern hemisphere for periods lasting as much as 600 days.

Lastly, I should like to mention that in the period 1975-1976, some sound rockets will be launched, particularly two that will carry heavy astronomical equipment.

On the basis of bilateral co-operation with several countries, France's effort has consisted primarily of conducting experiments on board American and Soviet satellites, such as the internal geophysical and trajectographical experiments on GEOS 3, which was launched in April 1975 by NASA; the experiment concerning the solar chromosphere on an OSO8 satellite; the LYMAN X photometers placed on Soviet sounding rockets VENERA 9 and 10; the BIRD experiment -- investigation of cellular damage caused by radiation -- which was carried out on the occasion of the joint Appollo-Soyuz flight; and others that could be mentioned.

I should also like to refer to the ARAKS operation, which is a Franco-Soviet experiment on the ionosphere and magnetosphere which involves provoking an artificial aurora borealis by injecting electrons, using an electron cannon manufactured in the Soviet Union and located at the tip of a French rocket.

Furthermore, equipment has been developed by or in collaboration with Swedish and Spanish laboratories and flown on French vehicles, particularly within the framework of studies on the remote sensing of land resources. This sector has given rise to efforts of co-operation that have been closely followed up and have not only led to the acquisition and exploitation of images of French territory taken by the Landsat satellites and received by the Italian station at Fucino but have also been followed by efforts to organize and operate the Landsat system for the benefit of such developing countries as Mali, Tunisia, the countries of the Mekong Delta and so forth. One of the key elements of the co-operation undertaken in this field takes the form of the offer made by France to the Economic Commission for Africa to place at the

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disposal of the West African States a satellite tracking station installed by France at Ouagadougou, Upper Volta, at its own expense. France intends to convert this station into a receiving station for data from Landsat satellites and to associate with that operation a data processing operation which would make it possible for countries not having the means needed to carry out such data processing operations to receive information that could be readily usable. It should also be mentioned, in this regard, that there would be associated with that station a centre for the training of technicians and engineers in the techniques involved in remote sensing. At this juncture I should also like to point out that the Ouagadougou tracking station has been operated for several years now by African personnel who have gradually replaced the initial French staff.

This effort to provide training has been given particular emphasis by France and has led not only the organization in 1975 of international seminars and colloquia on the technology of space experiments, space orbits and the observation of the earth, but also to the award of a considerable number of fellowships and grants to nationals from developing countries for these purposes. In 1975, 31 grantees from India benefited from this, seven for periods of up to five years; 10 Indonesians, as well as others from Brazil, Argentina and other countries, also received grants.

At the European level, France participates to a significant extent in all of the major European space agency programmes. French experiments have been carried out aboard scientific research satellites of the COS-B, GEOS and ISEE type. Furthermore, France has taken part in the launching of European satellites. I should like to mention the experimental telecommunications satellite of the OTS type, which will be launched in 1977, as well as the METEOSAT meteorological satellite, which likewise will be launched in 1977 within the framework of the first world-wide experiment in the Global Atmospheric Research Programme (GARP), in conjunction with four other satellites that have been supplied by the United States, the Soviet Union and Japan. Referring now to the MAROTS satellites, which are maritime navigation aids, and AEROSAT satellites, which are air navigation aids, the latter has been developed within the framework of an agreement between the federal Civil Aviation Administration of the

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United States, Canada and the European Space Agency. The SPACELAB manned space laboratory will be launched by the space shuttle developed by NASA -- as was recalled by the representative of the Federal Republic of Germany, a country which has become greatly involved in the development of SPACELAB.

For its part, France has shouldered the greater part of the responsibility of developing the ARIANE rocket. This rocket, whose initial trials on the ground have just met with success and which will be launched for the first time in July 1979, will make it possible to put satellites weighing up to 750 kg into geostationary orbit and satellites weighing several tons into low orbit.

I should now like to take up the matter of co-operation which has been established within the framework of the United Nations concerning space techniques.

In so doing, I wish to express my congratulations and appreciation to the Secretariat services, and particularly Mr. Perek, for their most effective activities as well as to the secretariats of these working groups.

Inasmuch as we are dealing with the United Nations programme for the implementation of space techniques, my delegation whole-heartedly endorses the words of praise in the report of the Scientific and Technical Sub-Committee concerning the activities carried out by the United Nations Expert on Space Applications, Mr. Murthy. I particularly wish to associate myself with the congratulations conveyed to him, which are, indeed, deserved in view of the number of years which he has devoted to the service of the United Nations.

As regards the future of the programme, the idea which developed in the Scientific and Technical Sub-Committee to change the linkages is something which I think deserves particular attention, especially if our effort is to develop activities in the more useful sectors or to change the approach.

Inasmuch as we are dealing with matters pertaining to international co-operation within a legal framework, I should like to recall that towards the end of last year, 1975, France ratified three specific Conventions dealing to a certain extent with the principles established by the general Treaty of 1967 concerning the peaceful uses of outer space. In view of the importance that we ascribe to these Conventions, and particularly to the Convention dealing with the registration of objects launched into outer space, we share the hopes that have been expressed by other delegations concerning the ratification of or accession to these instruments by an increasing number of States.

(Mr. Revol, France)

The quality of the three accords I have just mentioned reflects the work undertaken by the Legal Sub-Committee with the important assistance of the Scientific Sub-Committee. But, before stressing that, in analysing the most important points made by those two bodies at their respective sessions this year, I should like to point out that my delegation is somewhat hesitant in regard to the recent proposal made by the Committee on Conferences concerning the timing of the meetings. Though we, perhaps more than anyone else, are sensitive to the financial considerations, my delegation wonders whether the measures suggested are not likely to jeopardize the very effectiveness of the Committee in pursuing its task, since it is very fundamental in the drafting of space rights and the acknowledged quality of the work of those Sub-Committees.

This remarkable quality is characteristic of Ambassador Wyzner and Mr. Carver, the Chairmen of the Working Groups of the Legal Sub-Committee and the delegations of which the Sub-Committees are composed. Has the appeasing air which our delegations breathed on the shores of the Léman had some magical effect that has helped them to work out the laws of space? We are obliged to point out that on many of the items the dialogue continued in Geneva this year has been more fruitful.

On the subject of the remote sensing of earth resources, we ^{could scarcely} ~~can only with~~ ^{great difficulty} ~~imagine~~ ^{that we are making} rapid progress. ^{Many factors have} ~~been essential to that success.~~ First was the remarkable spirit of co-operation and compromise shown by all delegations. Second, no doubt, was the working method followed, which consisted of obtaining common points of view and then commencing the drafting of the principles on the basis of those common points of view. That very prudent and progressive method permitted discussions to be organized and difficulties to be resolved in the best manner. Thus the Cartesian method, if we may call it such, was very successful.

As to substance, positions were closer than at first glance. A certain consensus did emerge on the definition of bases. thanks mainly to the work of the Scientific Sub-Committee and its utilization by the Legal Sub-Committee. On the other hand, a number of principles or résumés of common points of view were drafted and became the basis for work for the next year.

(Mr. Revol, France)

This work would undoubtedly permit continuance of the methods of applying the principles of national sovereignty and participation and the determination of those activities of remote sensing which arise from each of those principles. In this respect, the distinction between data and information made by the Legal Sub-Committee on the subject of concepts could prove to be fruitful in the future.

Just as satisfactory was the progress of the work on direct television remote sensing. There again, the modesty of initial ambitions was in keeping with the spirit of the various delegations and the skill of Chairman Mishra. Those were the conditions for success. They reserved for the future discussions concerning fundamental problems and concentrated attention on basic principles concerning which there were not too many political difficulties. The Sub-Committee thus acted in the wisest possible manner.

Next year two tasks must be accomplished. The first will concern what I call the finishing touches to be put to the principles drafted this year, which contain a few imperfections of a strictly stylistic nature. The second task, much more delicate, will be to seek a consensus on unresolved questions concerning an agreement.

As my delegation has often pointed out in the past, we are aware of the questions concerning pure terminology in this matter, and by no means do we underestimate the psychological importance of such questions. On the other hand, what to us seems absolutely essential is our establishing a procedure which would increase the mutual agreement of States involved in the activities of direct television broadcasting. This includes more than consultations, because they would not necessarily lead to a positive agreement even if carried out in good faith in accordance with past custom. What we should guarantee is the existence of a genuine ^{approval} ~~improvement~~ on the part of the parties involved. In our opinion, the problem is definition of a procedure for negotiations, consultations and guarantees that would be applied to each, and particularly to the States receiving such broadcasts. Here, indeed -- owing to the power of this broadcasting technique -- cultural, moral and spiritual values concerning the very souls of peoples and persons are involved. In view of France's traditional philosophy, which places

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freedom above all other principles, we are in favour of the greatest possible freedom for television broadcasting by satellite because, like others, we believe that freedom of information is the very basis of freedom itself. But we should not lose sight of the fact that the freedom of what I call the consumers of information should be protected, just as the broadcasters of news should be protected, because complete freedom of broadcasting has two aspects.

On the one hand, it makes no distinction between information, in the strictest sense of the word, and propaganda and the excesses it could bring about and other activities such as commercial publicity, which at times influence minds for the benefit of commerce. On the other hand, if, when addressed to industrialized societies already having a diversity of sufficient information, complete freedom of information permits users to have a real choice -- such freedom making possible the expression of opposite viewpoints which can neutralize excesses -- that does not apply to those societies not possessing diversified systems of information. In other words, there are different requirements, even contradictory requirements, according to the circumstances and the degree of development of societies receiving the information thus broadcast. Given such a situation, it seems necessary to us that the countries and bodies capable of setting up and making operational direct television broadcasting should undertake, within a bilateral framework, a minimum of discipline in order to avoid excesses which could victimize the smallest and less developed countries. Thus we could view it as the lesser evil, perhaps providing the possibility for the Governments of the countries affected by the broadcasts to oppose them in the name of each country's right to determine its own culture, a right consecrated by the Declaration of Human Rights.

(Mr. Revol, France)

It is normal that, together with so much praise addressed to the Legal Sub Committee for the work it carried out this year, we should also express a few regrets with regard to two subjects on its agenda.

Concerning the draft treaty on the moon, one item has indeed been left in suspense, since final agreement was not reached, although there was hope at one point of reaching it. My delegation regrets this lack of success, and we for our part are prepared to support any compromise solution that might emerge, provided, naturally, that respect for the fundamental principles of the Treaty of 1967 be guaranteed.

My delegation also regrets that the Legal Sub-Committee was unable to devote more time to the questions concerning the definition or delimitation of space. I shall limit myself here to simply recalling the four points on which we insisted both in the Scientific and Technical and in the Legal Sub-Committees.

The first point is that the definition of space is not strictly academic. It is of certain and renewed importance because there exist potential risks on the legal, practical and political levels in not defining the field of application of space law.

The second point is that the necessary definition cannot be based on incontestable scientific or technical criteria. It ^{must} therefore ^{contain a fixed} ~~have a conciliatory~~ ^{and traditional} ~~part~~ ^{element}. This situation should not surprise us because it is not without precedent if we think of the sister discipline of the law of the sea.

The third point is that if we truly wish to deal with this question both seriously and in depth, we should give it sufficient priority. Of course, it should not take the place of questions now on the agenda. What we should do, when one of these questions is finally resolved, is to fill the space thus rendered vacant with the problems relating to the definition of space.

The fourth point is that the working method which could be followed then could and should be similar to the progressive one used in connexion with remote sensing. Common views on a certain number of points would first be identified before going into in-depth discussion.

(Mr. Revol, France)

There is another subject of interest which has been mentioned here since last year -- the use of solar energy in outer space thanks to space technology. After your statements during the eighteenth session, Mr. Chairman, some delegations considered this question, and I should like here to pay a particular tribute to the delegation of Argentina and to Ambassador Cocca for the working document which has just been officially presented to us. It certainly contains, with the concise and precise analysis provided by the Secretariat, food for thought for everyone. For its part, France has undertaken, as the two documents I have mentioned recall, programmes of tapping solar energy on land, but we do not intend in the immediate future to undertake comparable efforts in space. We would, however, be glad to know the details of the programmes undertaken by other countries, as the case may be, and we believe that the Scientific and Technical Sub-Committee could be the ideal body for the dissemination of such information.

Those were some of the comments which my delegation wished to make at the beginning of this nineteenth session of the Committee. I should like to add my delegation's wishes for its successful conclusion and the confidence we have that it will be so, knowing for a long time as we do your qualities and your experience, Mr. Chairman.

Mr. SMID (Czechoslovakia): Mr. Chairman, the Czechoslovak delegation is very pleased to participate in the nineteenth session of the Committee on the Peaceful Uses of Outer Space under your experienced, stimulating and pleasant guidance. We should like to express to you our appreciation for your introductory statement highlighting the main issues and tasks of this session.

Before proceeding with our statement, I wish to extend, on behalf of the Czechoslovak delegation, our wholehearted congratulations to the USSR delegation on the occasion of the launching of its new space station, Salyut-5, into earth orbit with two cosmonauts on board.

(Mr. Smid, Czechoslovakia)

At the thirteenth session of the Scientific and Technical Sub-Committee the Czechoslovak delegation had the opportunity to describe in some detail our activities in space matters. Today I should like briefly to inform the Committee of some more important steps taken by our scientists in the field of scientific research in outer space and in the construction and use of space technology. Czechoslovak scientists have continued to work successfully within the framework of the Intercosmos programme in outer space research, benefiting from the use of scientific and technical equipment provided by the Soviet Union -- satellites, launchers and scientific bases.

In 1975 Czechoslovakia participated in the launching of two new satellites of the co-operation programme of Intercosmos, namely, Intercosmos 13, launched on 26 March 1975, and Intercosmos 14, launched on 11 December 1975.

Intercosmos 13, launched into an elliptical orbit at an inclination of 84° , carried several instruments designed and made by Czechoslovak scientists. The main aim of these experiments was the investigation of the corpuscular radiation and of the very low frequency fields in the electromagnetic field in the frequency range of 20 Hz to 22 MHz.

Practically the whole year of 1975 was used by the Czechoslovak scientists for the preparation of a complex experiment dealing with the investigation of various plasma parameters and wave phenomena in the earth's ionosphere and magnetosphere, which was carried out on board satellite Intercosmos 14. The inclination of the satellite orbit of 74° made possible the investigation of the geophysical phenomena in the region of the plasmopausa. There again several instruments designed by Czechoslovak scientists were used.

Czechoslovakia takes an active part also in the working group on space communications within the Intercosmos programme. While preparing the transition to new frequency ranges in 1975, the development of accessories, measuring instruments and experimental equipment was taken up.

(Mr. Smid, Czechoslovakia)

In 1975 Czechoslovak scientists devoted considerable attention to remote sensing of the earth's resources and the environment by satellites and other space platforms. A new working group for remote sensing was established within the Czechoslovak Intercosmos Committee. It began its activities by defining the technical requirements for the detection and tracing of rapid changes in natural resources and the environment caused by the economic activities of man.

Since 1975 Czechoslovak scientists have been taking part in the biological experiments being carried out by the Soviet satellites Cosmos-690 and Cosmos-782.

Czechoslovakia is taking part also in the designing and construction of several Intercosmos laser radars, one of which was put into operation at the La Paz, Bolivia, station and participated in the "Great Arc" programme in the second half of 1975.

Progress in the peaceful uses of outer space and applications of space technology will not be made without international co-operation, without a favourable political climate. The Soviet-United States joint project Soyuz-Apollo, which was successfully implemented last year, confirmed the benefits of international co-operation in the peaceful uses of outer space. The Czechoslovak delegation is convinced that the spirit of international co-operation will have a positive influence on the work of our Committee.

We have before us the reports of the two Sub-Committees. Both documents confirm the fact that positive steps were again taken last year.

Progress was achieved particularly by the Legal Sub-Committee, notably with regard to the question of direct television broadcasting from satellites. We believe that with further efforts by all the members of the Sub-Committee it will be possible as early as next year to complete the text of principles governing the use by States of artificial earth satellites for direct television broadcasting. Those principles must ensure that the technique of television broadcasting will contribute to the strengthening of international understanding and co-operation, with full respect for the sovereignty of States.

(Mr. Smid, Czechoslovakia)

We should like also to express our satisfaction with the talks on legal implications of remote sensing of the earth from space. We support the idea of closer co-ordination in these talks between the two Sub-Committees. In that connexion the joint French-Soviet proposal in document A/AC.105/C.2/L.99 undoubtedly provides an excellent basis for further discussion.

As far as the completion of the draft treaty relating to the moon is concerned, there is just one little, formal step to be taken, requiring only a certain amount of goodwill and endeavour by all interested parties. We maintain that in view of the existing technical capabilities the question of the natural resources of the moon is of a secondary nature and should not impede the completion of the work with the draft text. We are convinced that the spirit of compromise which is always needed for the elaboration of such treaties should be applied to the question of common heritage, which for a number of countries is devoid of content and hardly acceptable politically.

The Scientific and Technical Sub-Committee has also taken some steps forward. We consider that it is mainly the Outer Space Affairs Division of the United Nations Secretariat which has contributed to that positive result. On this occasion we should like to say how greatly we appreciate the highly qualified work done by the officers of the Outer Space Affairs Division, who prepared more than 20 special documents or studies, amounting to 650 pages. We believe that at present we have at our disposal a sufficient number of well-prepared background papers --- first of all for the questions relating to remote sensing of the earth by satellites. It remains for us to make effective use of them.

Regarding the question of remote sensing we are of the opinion that our main task is to determine the co-ordination role of the United Nations in this field. That role should not be limited to the question of dissemination of data from remote sensing, but should embrace also other professional and organizational questions.

At last year's session of this Committee the Czechoslovak delegation clearly stated its position concerning a possible United Nations conference on outer space matters. We have to take into consideration the views of all States Members of the United Nations and, naturally, we must have a clear idea about the content and aims of such a conference.

In conclusion, I should like to voice my conviction that the nineteenth session of the Committee on the Peaceful Uses of Outer Space will yield further positive results.

Mr. SHANKAR (India): The Committee on the Peaceful Uses of Outer Space is meeting once again under your chairmanship, Sir, and the Indian delegation is confident that under your leadership this Committee will be able to achieve meaningful and constructive results. My delegation would like to assure you of its fullest co-operation in this regard.

India is a developing country and the principal objective of our space programme is to exploit space technology for peaceful purposes. This technology has a tremendous potential in the fields of agriculture, weather forecasting, telecommunications and so on. Our emphasis has, therefore, been on such practical applications of space technology as remote sensing of our natural resources, television broadcasting for educational purposes and telecommunications.

As the Committee is aware, India launched its first artificial earth satellite in April 1975, with the assistance provided by the Government of the USSR. That satellite has been transmitting very useful data and has enabled us to improve the technology of design and fabrication in that field. It is now proposed that the second Indian satellite, wholly designed and fabricated in India, be launched from the Soviet Union in 1977 and 1978. That satellite will primarily be an earth observation satellite and will carry television cameras and microwave radiometers as the two major sensors. It is hoped that this experiment will give India the capability of solving problems associated with the setting up of an operational satellite-based remote-sensing system. The Indian delegation is grateful to the USSR for its continued support of this project. We would like to join previous speakers in congratulating the USSR on its recent launching of a new space station.

(Mr. Shankar, India)

India has also entered into formal arrangements with the United States National Aeronautics and Space Administration (NASA) for getting data from LANDSAT, and the Indian Space Research Organization is involved in setting up a data processing system which will convert this data into a form capable of being used by various user agencies in the country.

Mr. Chairman, the Indian delegation is grateful to you and to a number of other delegations that have referred to the satellite instructional television experiment (SITE), at present being carried out in India. India's effort in that field is based on its recognition that space communications might offer worth-while solutions to development problems. The satellite instructional television experiment, which was inaugurated on 1 August 1975 will continue up to 31 July 1976. While the ATS-6 satellite has been provided by the Government of the United States, the direct receiving sets are of completely indigenous design.

The general objective of the SITE experiment was to gain experience in the development, testing and management of a satellite-based instructional television system, particularly in rural areas, and to explore the potential value of satellite technology in the rapid development of effective mass communication. The programmes include information on agriculture, animal husbandry, health and hygiene, besides special programmes for school audiences. As many as about 5,000 isolated villages in six states in India have benefited from this programme. Our delegation is grateful to the United States for assistance in this regard.

While on this subject, the Indian delegation would also like to thank UNDP, which has provided the necessary assistance for expansion and modification of the Experimental Satellite Communication Earth Station at Ahmedabad to enable it to serve as the prime earth station for SITE, and for its assistance in setting up of a television studio and transmitter unit for this purpose. Our Government has yet to analyse the effects and impact of this medium, but it is our hope that it will help us to plan the developmental communication systems of the future.

Turning now to the reports of the Scientific and Technical Sub-Committee and the Legal Sub-Committee which are before us for consideration by the Committee, the Indian delegation would like to join the previous speakers in thanking the Chairmen of the Sub-Committees, Ambassador Wyzner of Poland and Mr. Carver of Australia, for their outstanding contribution to the deliberations of those Sub-Committees.

(Mr. Shankar, India)

The most important item discussed in the Scientific and Technical Sub-Committee was the question of remote sensing. Though the Sub-Committee had very substantive and in-depth discussions, there was, unfortunately, no consensus among members of the Sub-Committee on the question of a possible United Nations role in this area. The Indian delegation would like to reiterate its view that it might be useful to get at least a beginning of some organizational activity within the United Nations system in this important area of space applications.

Paragraph 80 of the report of the Scientific and Technical Sub-Committee (A/AC.105/170) contains recommendations with regard to further work in this area of activity. Of the three suggestions mentioned in that paragraph, the Indian delegation would prefer the first suggestion -- namely, the convening of another working group on remote sensing from satellites, under the Committee on the Peaceful Uses of Outer Space. At the same time, we do not see any point in doing this unless there is a genuine desire on the part of delegations to proceed with some of the organizational arrangements. If this is not possible, and if we are to wait until after the Legal Sub-Committee completes its work of preparing an appropriate legal framework, the setting up of a working group may not prove useful at all.

The Indian delegation is of the view that the United Nations, which is a world Organization, have a responsibility in the area of the ever-expanding remote sensing activity. During the discussions in the Scientific and Technical Sub-Committee regarding organizational activities that could be undertaken by the United Nations in the area of remote sensing from satellites, some doubts were expressed about the possibility of the United Nations owning and operating the space segment. However, a high degree of consensus seemed to have developed in favour of the establishment of regional ground stations for direct reception of remote sensing data from satellites. As mentioned in document A/AC.105/174, which has been distributed to representatives, the Government of India has offered the necessary facilities for the setting up of a regional ground station. India fulfils all major technical criteria for the location of a remote sensing satellite ground station, such as geographical location permitting maximum coverage of south and south east Asia; proximity to international communication lines; availability of qualified and trained personnel to establish and man the centre;

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and availability of infrastructure, such as buildings, specialized equipment, etc. Our delegation will come back to this subject, if necessary, at a later stage.

The second item contained in the report of the Scientific and Technical Sub-Committee is the United Nations Programme on Space Applications. We have consistently felt that the Programme needed to be expanded so as to meet the needs particularly of the developing countries. India fully supports the programme for 1977 and, as already mentioned at the last session of the Scientific and Technical Sub-Committee, it would be happy to organize the technical panel meeting to discuss the results of the satellite instructional television experiment.

The next important item dealt with by the Scientific and Technical Sub-Committee was the question of convening a world conference on outer space matters. The Indian delegation is of the view that inclusion of outer space matters in the conference on science and technology, scheduled for 1978, or the third world telecommunication exhibition and world forum to be organized by ITU will not serve the purpose. Our delegation would like to support the views of the representative of Austria as to how the convening of the world conference can help, not only in reviewing the progress made, but also in analysing future requirements. The Indian delegation hopes that the recommendations of the Scientific and Technical Sub-Committee contained in paragraph 103 of its report will form a valuable basis for further examination of this matter.

The report of the Legal Sub-Committee deals with three main issues -- namely, the draft treaty relating to the moon, direct television broadcasting by satellite, and legal implications of the remote sensing of the earth from space. With regard to the draft moon treaty, the Indian delegation would like to indicate its satisfaction at the positive attitude adopted by various delegations during informal consultations on this item last month in Geneva. Our delegation hopes that the next session of the Legal Sub-Committee will be able to complete the work on this item, which has been before the Sub-Committee for many years.

As regards direct television broadcasting by satellites, the Legal Sub-Committee has made significant progress. Although there are still a few

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unresolved issues -- namely, the principles of prior consent and participation, programme content and unlawful broadcasts -- it is a matter of great satisfaction that the Sub-Committee was successful in formulating the texts of nine principles.

In the area of remote sensing, however, much progress could not be achieved, owing mainly to the extremely complicated issue of prior consent. The Indian delegation is of the opinion that while the sovereignty of a State over its natural resources should in no way be impaired, legal restraints should not be an obstacle to the extension of the benefits of this new and exciting space technology to the developing countries. In other words, we are for a legal framework which, on the one hand, prevents countries from being exploited and, on the other, enables them to reap the maximum benefits from remote sensing programmes.

Mr. Chairman, the Indian delegation will be happy to participate in these and other items contained in the agenda before us, and we have no doubt that under your guidance we will continue to make steady progress.

Mr. MOGHTADERI (Iran): Mr. Chairman, the Iranian delegation is very pleased to participate once again in the deliberations of the Committee on the Peaceful Uses of Outer Space under your wise leadership. Over the years you have demonstrated skill, wisdom and talent in guiding the work of the Committee, and my delegation will give you its continued co-operation.

My delegation listened with interest to your opening statement regarding achievements in space activities since the Committee last met, and in this regard wants to congratulate the Governments of the United States of America and the Union of Soviet Socialist Republics for the victorious joint Apollo-Soyez flight which took place last July.

With regard to my own country's space application programme, the Government of Iran instituted various measures in the areas of communications, education, meteorology, geophysics and earth resources. The Government has launched projects concerning the use of the earth resources technology satellite (ERTS) for mapping, surveying and development of the natural resources of the country. These projects are the result of joint co-operative programmes between the Government of Iran and the National Aeronautics and Space Administration (NASA) of the United States in the areas of agriculture, forestry, land use, urbanization, fisheries and geological and tectonic configuration of certain regions. The agricultural, forest and rangeland resources of Iran are the subject of intensive development programmes. The Ministry of Agriculture and Natural Resources is undertaking several studies in order to determine the best strategy for allocating land use among agricultural crops, pasturage and forest land. Remote sensing technology will be used to determine an optimum balance of land use. Iran has been associated with the ERTS programme for more than four years, and during that period the emphasis has been on the training of personnel and preparing the basis for the utilization of the data provided by satellites. My delegation wishes to thank NASA for training Iranian scientists and providing us with data.

There are also projects for using satellites to give elementary and secondary education to all sectors of the Iranian community, particularly in the rural areas. The same satellites will also be used to expand the existing communications network. These projects will reach the operational phase within the next few years.

(Mr. Moghtaderi, Iran)

Turning to the issues before the Committee, I should like to confine myself at this stage to some preliminary remarks. We are once again disappointed at the lack of progress with regard to the treaty relating to the moon; the deadlock which appeared in 1973, after 21 articles and the preamble were agreed on, still persists. No final agreement was reached on the main outstanding issues relating to the legal status of the natural resources of the Moon and the scope of the treaty. My delegation hopes that a more conciliatory spirit of compromise will prevail at the next round of negotiations.

The work of the Legal Sub-Committee through its Working Group was successful in finalizing nine principles in the field of the elaboration of principles governing the use by States of artificial earth satellites for direct television broadcasting. My delegation hopes that the issues of consent and participation, programme content and unlawful/inadmissible broadcasting will be discussed during the Committee's meetings, and that we will be able to reach agreement... on them.

Remote sensing of the earth's resources has special importance for my Government. My delegation is pleased to see that the Legal Sub-Committee has been successful in adding another three "common elements" to the five existing ones. I hope that at the next round of talks on this issue the Sub-Committee will be able to finalize the consideration of the legal implications of the earth resources survey by remote sensing satellites.

The report of the Scientific and Technical Sub-Committee indicates that the Sub-Committee gave its main attention to questions of remote sensing and the co-ordinating role to be played by the United Nations in the future development of remote sensing activities. My delegation agrees with the Sub-Committee's report that the Organization could fulfil a co-ordinating function even at the current pre-operational and experimental phase of activity and welcomes the decision to establish a standing body of the Administrative Committee on Co-ordination (ACC) to deal with the subject of co-ordination of outer space activities within the United Nations system.

We are once again happy to see that the Sub-Committee noted the importance of providing on-site training for developing countries so as to enable them to derive the maximum benefit from remote sensing technology.

(Mr. Moghtaderi, Iran)

With regard to the United Nations programme on space applications, my delegation wishes to express its appreciation to Mr. Murthy, the United Nations Expert on Space Applications, for the excellent work done by him and its approval of his work programme as outlined to the Scientific and Technical Sub-Committee.

Mr. DALTON (United Kingdom): Mr. Chairman, the United Kingdom delegation is grateful to you for your thorough and lucid review of the work of the Committee and its two Sub-Committees over the last year. With your statement in mind, as well as those of other delegations which have preceded us and with whom my delegation has much in common, we should like to do no more than highlight some few points about the activities of the last year. We will make no attempt to be exhaustive.

Year by year, our debates show that advances in the space sciences and in the application of discoveries in this field to the solution of practical problems are being made. The United Kingdom is committed to the principle of international co-operation in the peaceful uses of outer space. We continue to believe that this Committee must play a vital role in considering the legal, technical and organizational needs of the international community so that advances and discoveries can be used for the benefit of all mankind.

While agreeing with previous speakers that some difficult problems remain to be solved, my delegation welcomes the progress which has been made during the last year. We regret that it was not possible to conclude the treaty relating to the moon. Certainly, we were nearer to completing it than we ever have been. We hope that the Committee will decide to give this item priority in the tasks to be allotted to the Legal Sub-Committee so that further efforts can be made to resolve outstanding difficulties.

(Mr. Dalton, United Kingdom)

On direct broadcasting from satellites, I should simply like to reaffirm that the United Kingdom is one of those countries which does not believe that the principle of prior consent by receiving States should be applied. However, we recognize that there should be a duty, wherever possible, for the broadcasting State to co-operate with the receiving State in a way which would lead to harmonious participation by the receiving State in any direct-broadcast-satellite programme. Work on the elaboration of legal principles should, we believe, take into account new practical developments in the field, and we would welcome contributions from the Scientific and Technical Sub-Committee in this regard.

The United Kingdom welcomes the progress made in the sessions of the Scientific and Technical Sub-Committee and the Legal Sub-Committee in the field of remote sensing of the earth and its environment, including its natural resources. Some interesting new ideas emerged from the debates in both Sub-Committees. I should like to recall the position of my Government on the elaboration of principles to govern remote sensing. We recognize that there is a real and legitimate interest of the international community in these activities, in the way they are carried out, and in the direction of future efforts to utilize the technique for the greatest good of the greatest number. We consider that there are a number of general considerations on which internationally agreed guidelines for remote sensing should be based. These are, in summary: that all States should be free to carry out remote sensing; that it should be carried out in the interests of the community as a whole, and not merely in the interests of the sensing State or, indeed, of any particular sensed State; that it should be carried out in such a way as to promote freedom of scientific investigation and the widest possible dissemination of its results; and, finally, that it should be carried out on the basis of the fullest possible participation by all concerned. With respect to these principles, my delegation was particularly interested in the statement made by the representative of India when he gave us information about the nature of the satellite to have a capacity for remote sensing which they intend to launch in the course of next year.

In our view, protection for sensed States will best be found in development of the principles of the accessibility of information and in participation in appropriate phases of the operation, and on appropriate terms, by sensed States.

(Mr. Dalton, United Kingdom)

As an example of what we have in mind, we note that the Legal Sub-Committee at its last session formulated a further common element in the views of States -- namely, that remote sensing data, or information derived therefrom, should not intentionally be used by States to the detriment of other States. It will be necessary for the Legal Sub-Committee at its next session to look into this common element further and perhaps to spell out its implications in greater detail. As it stands, however, it is a useful beginning.

We welcome the increased role the United Nations is playing in the co-ordination of international activities in remote sensing during the current pre-operational phase. We believe that this role could usefully be expanded. Thus we see merit in the suggestion, recorded in paragraph 80 (b) of the report of the Scientific and Technical Sub-Committee, that a remote sensing panel of experts be set up. They could assess the effectiveness of the present experimental and pre-operational remote sensing systems and knowledgeably advise on the best role for the United Nations to adopt in relation to future operational systems.

I should now like to take up a point you made during your opening statement, Mr. Chairman, when you said that the Committee should be prepared to inject a small element of Utopia into its designs. We entirely agree. In some subjects, this Committee responds to needs that are already widely perceived in the international community. In others, it should be prepared to give a lead to the international community. If we are to contribute to the task of making the fruits of space technology available for all mankind, the Committee will sooner or later have to look outside its traditional agenda. An excellent example is provided by solar energy. We recognize that the use of space for the generation of electricity is a possible subject of debate for the Committee at some stage. However, the most suitable line of approach to the subject is not clear at present. My delegation thus favours the suggestion put forward yesterday by the United States. Before we commission the Scientific and Technical Sub-Committee to place solar energy on its agenda, perhaps we should ask the Secretary-General to request States to give him information on the role they envisage for the generation of electricity in space within their own programmes for energy research and space research. For our part, we have noted with great interest the challenging view put forward in paragraph 100 of the report submitted by the International

(Mr. Dalton, United Kingdom)

Astronautical Federation on the state of the art and an assessment of scientific and technological developments in the exploration and practical uses of outer space within an international framework. I should like to quote this challenging view:

"Thus the groundwork is well laid for a relatively intensive phased research and development programme, preferably international in nature and supported by an international consortium of public utility investment capital, which could culminate in a subscale orbital power plant demonstration by the end of this century."

Further reflection by States, and appropriate communications to the Secretary-General of views on this subject as envisaged, I understand, in the United States suggestion, could only be helpful.

We recognize the value of world conferences in launching programmes for action on matters of vital and substantial interest to the international community. Space science and applications are of vital and substantial interest to the international community. But have we yet reached a point either of common agreement among States on the ends to be pursued or even of scientific knowledge about the options which we face to take a decision to hold a world conference? There is still plenty of patient and unspectacular work to be done through this Committee.

For example, the Scientific and Technical Sub-Committee recommended that the Secretariat should prepare a study on the proposal for a United Nations space conference. One topic the Secretariat might usefully cover would be the relationship of a conference to the continuing work of this Committee. They will have before them the views of States which have already replied to the Secretary-General's questionnaire and, we hope, the views of others who have yet to reply, and, of course, the views expressed in the course of various debates on this subject. The United Kingdom, for one, has still to be convinced of the need for a conference at this stage of the development of space science and space applications. Nevertheless, I hope that the Secretariat will look beyond the ideas expressed by States in their replies to the Secretary-General in preparing its analysis of the potential benefits to be derived from a conference. We welcome the prospect of further discussion, which may or may not clarify the objectives of the proposed conference.

(Mr. Dalton, United Kingdom)

Before concluding, I should like to make some remarks about the United Nations space applications programme, which clearly is making a considerable impact. There is a danger, indeed, that as knowledge of the potential benefits of space technology spreads, demand for study and training facilities will outstrip the supply. The United Kingdom Government is particularly gratified at the response Mr. Murthy has received in seeking candidates from developing countries for the scholarships in space telecommunications studies the United Kingdom has offered under the programme. Preparations for the seminar on the use of remote sensing for natural resources survey, development and planning to be held in Britain this summer are well advanced. Once again, there has been an excellent level of demand from developing countries for places at the seminar.

Mr. SALATUN (Indonesia) Mr. Chairman I should like to begin by expressing my delegation's appreciation to you for your detailed and comprehensive review of the work of the Committee and related matters during the past year. My delegation has found it most valuable in preparing for these deliberations.

I should also like to thank Ambassador Wyzner of Poland, Chairman of the Legal Sub-Committee, and Professor Carver of Australia, Chairman of the Scientific and Technical Sub-Committee, under whose outstanding leadership their respective Sub-Committees have registered significant progress during the past year.

The Indonesian delegation is also pleased to welcome in our midst the representatives of the International Astronautical Federation to observer status and is convinced that the Federation will continue to make contributions as it has done for the past 26 years. Specific mention must be made of the report of the Federation, contained in document A/AC.105/173, covering various aspects of scientific developments in research and applications of space technology which is of considerable value in our deliberations. I should add that Indonesia joined the International Astronautical Federation two years ago as its thirty-seventh member.

I should like to begin by discussing the report of the Legal Sub-Committee. My delegation would like to express its satisfaction that the Sub-Committee formulated a number of new principles to govern remote sensing activities of States and the use by States of artificial earth satellites for direct television broadcasting. Despite these advances, the Sub-Committee did not succeed in its attempt to reach agreement on a draft moon treaty.

As regards the moon treaty, Indonesia is a co-sponsor of document PUOS/C.2(XV)WG.1/Working Paper 3. This proposal consists of provisions which, if adopted, would establish an international régime to ensure an equitable sharing in the benefits to be derived from any resources which may be discovered on the moon. By providing for the orderly and safe development of these resources, as well as their rational management, the proposal seeks to meet the needs of the developing countries.

(Mr. SALATUN, Indonesia)

In order to determine the feasibility of exploiting the moon's resources, the working paper proposes that the Secretary-General be empowered to convene a conference for the purpose of deciding whether such an international régime is to be established. Prior to the establishment of such a régime, States parties should undertake to refrain from acting in a manner incompatible with the above-mentioned provisions. In addition, they should promptly inform the Secretary-General of any discovery of natural resources as well as any other activities on the moon. My delegation strongly hopes that the provisions of the working paper will receive serious consideration by the Committee.

As I have just indicated, a great deal of progress has been achieved in the formulation of principles governing direct broadcast by satellites. The agreement reached on the nine principles in the report submitted by the Chairman of Working Group II of the Legal Sub-Committee was most encouraging and could, it is hoped, facilitate further progress in the difficult areas of consent and participation as well as programme content.

Even here, the progress achieved so far would appear to suggest that the concepts of freedom of information and national sovereignty need not necessarily be mutually exclusive. If freedom of information could be within the framework of international co-operation and understanding, and consent could be construed in terms of the exercise of sovereign rights to be protected against possible dissemination of information that might undermine a country's cultural and traditional values, then it is possible to find some acceptable formulations to reflect these concerns.

As regards remote sensing, Indonesia attaches great importance to this aspect of space technology as a potentially effective tool in enhancing economic development. While realizing that the use of remote sensing data has certain limitations, the scientific community and potential user agencies have come to agree that, with consistent efforts to give special attention to problems of developing countries, such limitations could eventually be overcome.

It was with this idea in mind that some two years ago Indonesia agreed to be host to a United Nations - FAO seminar on remote sensing of land and marine resources

(Mr. Salatun, Indonesia)

in the tropical environment, with a view to examining such problems and learning from common experience.

We are happy to note that the seminar, held at Jakarta last November, did, in the opinion of its participants and observers, contribute to that objective. The report on the seminar which was attended by participants from eight developing countries in the ESCAP region and remote sensing specialists from Australia, Canada, the Federal Republic of Germany, India, Japan, the Netherlands, the United Kingdom, as well as specialists from the United States involved in the LANDSAT programme, is contained in document A/AC.105/162.

Since the seminar was the first to be addressed to problems of developing countries, it may be of interest to note that particular attention in the seminar was given to problems of cloud cover in the tropics and the extent to which future generations of sensor systems and frequency of coverage could help solve such problems.

Also of importance would appear to be the discussions and conclusions reached on the use of simple equipment in the interpretation and analysis of data, as well as the possibility of using different satellite orbits and spatial resolution of images.

We should like to take this opportunity to express our appreciation to the experts from various developed countries, especially those involved in the LANDSAT programme, without whose contributions the seminar could not have been so effectively conducted. Our thanks again go to the United Nations, particularly to the Expert on Space Applications, Mr. Murthy, and the Food and Agriculture Organization of the United Nations for having sponsored and made the seminar possible. Mr. Murthy deserves our special thanks for his contribution to and arrangements of the panel. In this context I should also like to thank the first United Nations Expert on Space Applications, Professor Umberto Ricciardi of Argentina, who in the early days of the United Nations Space Applications Programme, generated interest among Indonesian government officials in the possibility of hosting a United Nations sponsored panel.

(Mr. Salatun, Indonesia)

The Indonesian delegation is generally in agreement with several aspects of the report of the Scientific and Technical Sub-Committee. However as regards the information paper contained in document A/AC.105/155 and Add.2, submitted by the Secretariat concerning national or regional ground stations for direct reception of remote sensing data, the Indonesia delegation regrets that, although the paper contained information reflecting various activities, it nevertheless failed to provide sufficient information deemed useful to the developing countries. Likewise, it is regrettable that no commitment has been made for the establishment of an operational system of remote sensing of the earth by satellite, although the need for such a system in terms of cost-effectiveness in acquiring the benefits of satellite remote sensing for a great number of countries is fairly obvious.

(Mr. Salatun, Indonesia)

Finally, I would like to draw the attention of members to the imminent launching, on 8 July, of Indonesia's first domestic satellite, named PALAPA, from the NASA Kennedy Space Center at Cape Canaveral. That will constitute a significant technological feat, as Indonesia will become the first developing nation, and probably the third or fourth nation in the world, to have a domestic satellite system for telecommunications as well as educational television purposes.

As a follow-up to the first domestic satellite system, after its operational life is over, the need will arise for a replacement. In that context the Indonesian Government has already started the necessary planning for the next generation of a satellite system, which will greatly promote the progress of national technology and industry in general and the space development programme in particular.

It is the view of my delegation that such a worthy but difficult task will be rendered less arduous if the people of Indonesia can in the future benefit from increased international co-operation, and we hope such co-operation will be given.

Despite technical and geographical factors, the Indonesian domestic satellite system will bring the nations of South-East Asia closer together and thus foster ASEAN regional co-operation.

Mr. TSEGREGSEM (Mongolia) (interpretation from Russian): The delegation of the People's Republic of Mongolia is very pleased to join other delegations in extending greetings to you, Mr. Chairman. We are convinced that under your experienced and skilful leadership our Committee will achieve further positive results.

As has already been emphasized by many other speakers, the position in the world today is more favourable than ever for the successful carrying out by the Committee of the responsible task entrusted to it. The process of détente, which has become a striking phenomenon, has opened new and broad prospects for the establishment of friendly relations among all countries, in all areas of international life and specifically in the area of the peaceful uses of outer space.

(Mr. Tsegregsen, Mongolia)

One of the most striking examples of that is the carrying out of the experimental Soyuz-Apollo spacecraft flight in the summer of 1975. And today we have heard the news that the Soviet Union has launched a space laboratory -- further proof of the successful development of Soviet space research. Our delegation is pleased to join other delegations in the Committee in congratulating the Soviet delegation. We wish the Soviet Union continued success in this important field.

Every new step in space exploration opens up even wider prospects to mankind for the conquest of space for peaceful purposes, but it also confronts us with new and complicated tasks whose solutions require close international co-operation. Hence, the co-ordination role of the United Nations Committee on the Peaceful Uses of Outer Space grows in importance from year to year.

The People's Republic of Mongolia attaches great importance to international co-operation in space exploration. Our country, to the extent of its possibilities, is participating in a number of space programmes being carried out by the socialist countries. Specifically we are participating in the activities of Intercosmos, which involves co-operation by our countries in the spheres of space physics, space meteorology, space communications and space biology and medicine, as well as in the field of remote sensing of the earth through aerospatial means. The meteorological services of the People's Republic of Mongolia receive information daily from earth satellites, information that is of great significance in the work of weather forecasting. Our scientists are participating in studies of the top layers of the atmosphere, with the assistance of ground sensing stations. The data received by the relevant national department of the People's Republic of Mongolia on the tracking of artificial earth satellites are processed and sent to the international centre called "Cosmos". Our scientists are actively participating also in the simultaneous photographic tracking of the geodesic satellite and in studies of the physics of the sun and its coronas. In the past few years the People's Republic of Mongolia has had a receiving station called "Orbit", thanks to which our country is able to receive television broadcasts from the Soviet Union and other countries of the world.

(Mr. Tsegregsen, Mongolia)

My delegation joins in congratulating the Scientific and Technical Sub-Committee and the Legal Sub-Committee on the work they have done during the past year.

The Legal Sub-Committee had some complicated problems to deal with, and we note with satisfaction that at its fifteenth session it was able to reach agreement on nine principles that should govern the use by States of artificial earth satellites for direct television broadcasting, as well as to formulate five principles concerning the possible legal implications of remote sensing of the earth from space. But, in our opinion, the Legal Sub-Committee still has many important tasks before it in connexion with the drafting of all-encompassing legal principles for international guidance of the activities of countries in the foregoing domains. I refer specifically to the important problem of the principle of prior consent by States to direct television broadcasting, a problem that has not yet been solved. We hope that in drafting the remaining principles for direct television broadcasting the Sub-Committee will base itself on the necessity for strict compliance with and respect for the sovereign rights of every State.

Our delegation trusts that at its next session the Legal Sub-Committee will give priority to the conclusion of the draft treaty relating to the moon, which in our opinion is ready for final agreement.

With regard to the report of the Scientific and Technical Sub-Committee, our delegation endorses the work done by that Sub-Committee at its thirteenth session. The Sub-Committee was able to focus its attention on the most important problems connected with remote sensing of the earth. We believe that the Sub-Committee's future efforts should be directed towards the speedy drafting of the principles in that domain, taking into consideration their scientific and economic significance for all countries.

With regard to the convening of a conference on space matters, we believe that very careful preparation is essential if such an important conference is to do useful work.

In conclusion, our delegation wishes the present session of the Committee on the Peaceful Uses of Outer Space even greater success.

Mr. CAVAGLIERI (Italy): Mr. Chairman, allow me first to compliment you on the brilliant and effective way in which, as is your habit, you are conducting the work of our Committee. I should like to convey to you the best wishes of my delegation for the accomplishment of the delicate task entrusted to you.

My delegation has read with great attention document A/AC.105/170 and document A/AC.105/171, in which the reports of the thirteenth session of the Scientific and Technical Sub-Committee and of the fifteenth session of the Legal Sub-Committee have been issued. We noted with appreciation that some progress was made at those sessions towards a solution of the problems facing this Committee -- namely, in the field of the drafting of principles governing the use by States of artificial earth satellites for direct television broadcasting. It is, however, difficult to deny that this progress was meagre, and that in general the Sub-Committees, especially the Legal Sub-Committee, were unable to reach consensus on most of the matters of which they had been seized with high priority by the General Assembly at its thirtieth session.

My delegation does not ignore the great difficulties which have so far prevented a solution of the many problems we are facing. Considerable material interests are at stake, as well as principles related to the existing differences in political and social systems. We think, however, that a careful and constructive search for a compromise should lead to more positive results than those achieved so far.

The Italian delegation at Geneva has put forward, in this respect, some suggestions which might, in our opinion, facilitate such a search -- at least as far as some of the matters before this Committee are concerned, and we hope that these suggestions will be carefully weighed when the debate on the various issues on the agenda begins.

We think it, however, of the utmost importance, from a more general point of view, that sight should not be lost of some basic principles which represent a solid starting point for the solution of the pending problems.

(Mr. Cavaglieri, Italy)

The outer space Treaty of 27 January 1967 is one example. In spite of its gaps and defects, it has in fact established some fundamental principles for juridical regulation of the peaceful uses of outer space -- and in particular the most important of them, the freedom of those peaceful uses. Many of the difficulties this Committee is facing at present seem to us, in fact, to derive from a tendency to do away with the principles established in that Treaty.

With regard to the elaboration of principles governing the use by States of artificial earth satellites for direct television broadcasting, some progress, as I mentioned, was achieved by the Legal Sub-Committee at Geneva. Some highly substantial points, however, though few in number, remain to be settled. In searching for a solution, it is our opinion that our main preoccupation should and must be respect for the principle of free circulation of ideas and information --- a principle which is at the basis of peaceful co-operation between peoples and States, and which, as such, was solidly reaffirmed in the Final Act of the Helsinki Conference.

Italy has been encouraged by the work done in considering the legal implications of remote sensing. The need to establish a legal régime for remote sensing stems from the fact that these activities are both spatial and terrestrial. Therefore, it does not seem possible for us to find in the 1967 outer space Treaty all the answers to the questions raised by remote sensing. We consider, however, that further discussion of this legal framework must not result in severe restriction of remote sensing activities. Should this occur, it could seriously prejudice the sound development of outer space technology and its vast potential uses for the common benefit of all mankind.

The delegations which have preceded us -- and in particular those of the Soviet Union and the United States -- have mentioned future programmes whose importance and value emerge unequivocally, above all if one considers the absolutely exceptional results already achieved from the space missions and other activities of the recent past. For its part, the Italian delegation

(Mr. Cavaglieri, Italy)

intends to place particular emphasis on the programmes of the European Space Agency, which include for 1977 the launching of the METSAT, OTS and MAROTS satellites, and also the launching of three new scientific satellites. Italy is a member of the Agency and one of its largest contributors; we participate in all its programmes.

Besides these joint European activities, Italy undertakes national space programmes, such as the Sirio programme, under the aegis of the National Council for Scientific Research. The launching of the satellite of the same name next year will make it possible to carry out a series of propagation experiments in the field of frequencies higher than 10 gigacycles. As is the case with the programmes of the Space Agency, in the implementation of the Sirio programme also, the vehicles to place the satellites in orbit are supplied on a commercial basis by NASA.

The Italian delegation acknowledges the spirit of collaboration which is at the basis of such agreements. We hope that this spirit can develop even further with the coming of the new capabilities that in the 1980s will be offered by the NASA Space Shuttle, and in particular by the space laboratory SPACELAB, achieved in collaboration between NASA and the European Agency -- a laboratory which will, in fact, be brought into orbit by the Space Shuttle.

Italy, by participating in this programme of the Agency to the greatest extent, reaffirms its unequivocal faith in the future development of the prospects of these space activities for peaceful uses and for economic and social development. In the framework of Italian space activities, the San Marco programme, supported by the Centro Ricerche Aerospaziali -- the Aerospace Research Centre -- is also of great interest. This programme contemplates in the first months of 1978 the launching of two scientific satellites for the exploration of the atmosphere for meteorological purposes. The launchings will take place from the off-shore Italian base situated in the Indian Ocean, once other satellites have first been launched successfully.

(Mr. Cavaglieri, Italy)

The Italian delegation, furthermore, believes that it may be interesting also to note the importance of the activities carried out on the ground for the evaluation of the data and results which the satellites supply. The receiving station near Lake Fucino, intended for the reception and elaboration of the data furnished by the LANDSAT satellites, is in operation. The applications of this data in the fields of primary interest, such as agriculture, forestry, hydrology, geology and geophysics, geography and topography, etc., are being developed.

From 25 October to 12 November 1976 the first experimental training exercise in these techniques will be carried out there -- an exercise reserved to the experts of the countries of the Economic Commission for Africa. This experiment will be carried out in collaboration between the United Nations FAO and Italy in order to establish the base for a permanent centre which could deal specifically with the application of these space techniques to the problem of renewable or non-exhaustible resources.

The Italian delegation notes with particular satisfaction that this experiment, carried out along the lines set out in General Assembly resolution 3388 (XXX) of 18 November 1975, is aimed in particular at the agricultural problems of semi-arid lands -- that is to say, to two most burning problems -- those of food and water.

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(Mr. Cavaglieri, Italy)

The Italian delegation is convinced that this particular achievement -- that is, this station intended to receive and elaborate the data from the Landsat satellites -- is of particular significance for the efforts made by Italy in the spirit of the treaty of 1967. In this spirit, the satellites in orbit must be a service, and we must equip them on the ground with mechanisms of ever-increasing efficiency for the purpose of evaluating these data, in the interests of economic and social development of all, with adequately modulated planning and organization.

The Italian delegation is convinced that the spirit which inspired this first experimental training exercise as well as all other activities in the space sector carried out in Italy -- as emerges, furthermore, from the Italian delegation's statement and contributions to the work of the two Sub-Committees -- can constitute the basis for further development of that international collaboration which is founded on an ever-increasing awareness and comprehension of the scientific and technical environments, and we feel true pleasure at being able to demonstrate here to all developed and developing countries our awareness and comprehension in the spirit of the 1967 treaty and General Assembly resolution 3388 (XXX).

Mr. HARRY (Australia): Mr. Chairman, it gives me great pleasure to speak in this Committee once again under your distinguished chairmanship, and I am sure that under your guidance the Committee will make progress towards resolving at least some of the difficult issues before us.

There have been a number of significant developments in space science since this Committee last met, as you have pointed out in your introductory statement. We have witnessed further achievements in both the exploration and exploitation of outer space for the benefit of man. One most notable achievement, to which I should like to refer, is the American Viking mission now at its lower orbit around Mars. The final success of this mission by the landing of a research facility on the surface of Mars will represent yet another important new step in the exploration of outer space. Its results will greatly add to the store of man's knowledge. We are confident that the landing during the first week of July will be achieved as planned.

(Mr. Harry, Australia)

In your opening statement, Mr. Chairman, you outlined for us a number of recent space ventures, including Apollo-Soyuz and the Indian SITE project, which shared a common characteristic: as you said, they were all co-operative international ventures combining the efforts of two or more States. This increasing degree of international co-operation is, I believe, a trend of the future and one which this Committee should welcome and, where possible, encourage. Those of us who were present in Washington to see on television the Soyuz launching and at the Kennedy Space Center for the departure of the Apollo project will not soon forget the tension and the triumph of that exploit.

All these achievements serve as a timely reminder of the continual advance of space science. We in this Committee should not lose sight of this onward march. We should endeavour to match advances in the technological and scientific fields with progress here. The imminent unmanned landing on Mars, for example, lends greater urgency to our task of resolving the outstanding issues in relation to the moon treaty.

Having said that, I should add that the results of the recent sessions of the Legal and the Scientific and Technical Sub-Committees seem to offer good prospects of reaching agreement in several important areas, thus building on the impressive record of achievement which this Committee has established over the years.

Mr. Chairman, you have referred to the work of Mr. J.H. Carver. I regret that he is not here with us today, but my delegation would be glad to convey to him the thanks you have expressed on behalf of the Committee.

My delegation is encouraged that the differences between delegations in relation to the moon treaty seem to have been further narrowed by the Legal Sub-Committee at its last meeting, and we share the hope which you expressed, Mr. Chairman, that this Committee may be able to resolve the remaining difficulties so that the treaty can be opened for signature in the near future.

My delegation welcomes the progress that the Legal Sub-Committee has made in elaborating a set of principles relating to direct television broadcasting from satellites. We commend the results that have been achieved so far and hope that, in addition to the nine principles already agreed, an early consensus can be achieved on the three remaining subjects, namely, consent and participation, programme content and unlawful or inadmissible broadcasts.

(Mr. Harry, Australia)

I should now like to turn to an issue which concerns both the Scientific and Technical and the Legal Sub-Committees, that is, the question of remote sensing. It is hardly necessary for me to reiterate here the vital importance of earth-oriented fields of space applications for man's future economic and social development. At a time when the world is increasingly preoccupied with the acute problems of food resources and energy, we must seek to ensure that the benefits deriving from space technology can be effectively utilized to help overcome the critical problems of resources and energy facing us.

The question of remotesensing has confronted the two Sub-Committees with a number of important, complex and often interrelated problems. Although unresolved differences remain, both Sub-Committees have made good progress. Without going into the perennial issue of the relationship between the two Sub-Committees in any detail, I should like to say briefly that my delegation takes the view that the proper solution is the synthesis of the two Committees' work on the basis of genuine equality and exchange of knowledge.

Although the space segment is still regarded as preoperational, the increase in the number of remote sensing receiving stations suggests that this space application will become an increasingly valuable tool in providing data for the development and conservation of the world's natural resources for the benefit of mankind.

Australia has taken an active interest in remote sensing through participation in the Landsat programmes of the United States National Aeronautics and Space Administration. Remote sensing data is being applied in surveying, mapping, forestry, meteorology and a number of other areas. Work has recently begun on an ecological survey of the entire Australian continent using Landsat imagery. The project is the first over-all ecological survey ever undertaken on our continent and is expected to take three to five years to complete.

I will not, in this intervention, traverse our attitudes on all the various substantive items on our agenda. I would like, however, to comment briefly on the question of the convening of a United Nations conference on space matters. The Australian Government is of the view that no sufficient justification has been presented so far to support the concept of a special conference on space applications. However, we do see value in including space applications in the United Nations Conference on Science and Technology projected for 1979.

(Mr. Harry, Australia)

That is all we wish to say at this stage. We shall intervene as necessary later in the session on specific matters.

Mr. EL-ZOEBY (Egypt): Mr. Chairman, allow me at the outset to express on behalf of my delegation sincere and great pleasure at once again seeing you presiding over this Committee and to express our confidence that, as on previous occasions, this session will be productive under your wise and able guidance.

In your opening statement, for which we should like to thank you, Mr. Chairman, you reviewed the latest milestones in international co-operation in the peaceful uses of outer space, and my delegation would like to join you and other delegations in extending to the space Powers our sincere congratulations on the successful endeavours they have conducted independently or jointly in outer space. We earnestly hope that détente on earth and détente in space will benefit from each other will always promote the welfare of all mankind.

It is customary during the general debate for delegations to refer to the highlights of their respective national programmes. In Egypt, we attach great importance to space technology applications and, in particular, to the area of remote sensing. Reports on the activities conducted by the remote sensing research project in Egypt, which is a part of our Academy of Scientific Research and Technology, are available in the library of the Outer Space Affairs Division, and my delegation had the opportunity to refer to them in some detail during the last session of the Scientific and Technical Sub-Committee. With your permission, my delegation will during this session put at the disposal of members of the Committee a brief report on the latest results achieved in that project.

Turning now to the reports of the two Sub-Committees, I should like to begin by joining delegations which preceded me in expressing thanks and gratitude to the Chairmen of both Sub-Committees -- Mr. Carver of Australia and Mr. Wyzner of Poland -- for their relentless efforts in conducting the work of the two Sub-Committees. We believe that the last sessions of both Sub-Committees were very fruitful. However, I shall defer

(Mr. El-Zoeby, Egypt)

stating my delegation's views on the substantive issues concerning the work of the two Sub-Committees until this Committee considers agenda item 4.

With your permission I shall now deal very briefly with two issues of a general nature.

Concerning the co ordination between the two Sub-Committees, my delegation is among those which have for quite some time stressed the vital importance of achieving closer interplay between the two Sub-Committees, and we earnestly hope that during this session of our Committee a reasonable solution to that problem will be achieved.

Concerning the proposal that the Committee be convened on a biennial basis, my delegation would like to join others in stating that it cannot support such a proposal.

My last point concerns the order of priority of items dealt with in the Legal Sub-Committee. In the view of my delegation, that order should be changed and due consideration should be given to degrees of urgency, practicality and feasibility in deciding the new order and in allotting time to each item.

In conclusion, Mr. Chairman, I should like once again to assure you of the will of my delegation fully to co operate with you.

Mr. MACAULAY (Nigeria): Mr. Chairman, since this is the first time my delegation has addressed the parent body of our interrelated Sub-Committees, it is with some sense of trepidation that I approach the task of conveying to you and to the Rapporteur our congratulations on your appointments to conduct the affairs of this Committee, which, under your able chairmanship, is guaranteed success. We know it is also becoming fashionable to thank the Secretariat, and sometimes the officers of the Committee, for their excellent services -- though, regrettably, not without one complaint or another on how this or that role of the United Nations as a body could better be improved. Nevertheless, valid as some of the arguments may be, we, the members of the third world, also recognize that the immediate cause of stalemate and sometimes checkmate on the work of this Organization has been the benign neglect

(Mr. Macaulay, Nigeria)

or the unwillingness of some very powerful Governments to demonstrate the political will to consider the experiment of the handicap race in the field of technology. So, from the look of things, the third world will in the foreseeable future remain also-rans in this race.

The Secretariat is, alas, for most of us in the developing countries, the last bastion and foolproof insurance against misinformation and a total absence of information should this course regrettably commend itself to any one State.

My delegation has heard and read with keen interest the statements made in this house. Without in any way wishing to detract from the declarations of intent implicit in those pronouncements, we are again taking this opportunity to appeal to all delegations to match those words with concrete endeavours so that we do not once more find the goals eluding us when they seem to be so near at hand.

(Mr. Macaulay, Nigeria)

It was a great disappointment to my delegation that three weeks ago the Legal Sub Committee failed to clinch a draft treaty on the moon, a feat that was just a whisker away. We take this opportunity to thank the three Chairmen, who worked tirelessly and very assiduously in trying to arrive at a consensus in Geneva. We sincerely hope that their efforts were not in vain, and we look forward once more to rebuilding the bridge which should this time ferry us through the gauntlet of sometimes barren semantics which on occasion gradually polarized the otherwise friendly atmosphere at Geneva. A repetition of such a spectacle could only redound to the discredit of all of us and perhaps label this conference as the "frustration conference". Only the other day I heard over the radio with some dismay that, while we are still haggling over a moon treaty, millions of tons of garbage are now floating in outer space. What then will be our reaction should cynics decide to label us the "garbage conference"? We do not pretend to know under what convention this launching was registered. We only hope that we do not once more fail to grasp an opportunity once it is within our reach.

My delegation would therefore seek through you, Mr. Chairman, an assurance from the space Powers that our present inability to formulate a treaty for the moon is in no way connected with the suggestion . . . I cannot put it higher than a suggestion . . . that the big Powers do not in fact need a treaty in the same sense that the third world does, since, with or without a treaty, virtually anything, including garbage, can be shot into outer space without the rest of us being any the wiser, particularly the third world, their fears and frustrations notwithstanding.

I should like now to make a few preliminary remarks on direct broadcasting by satellite and remote sensing. My delegation believes in the best traditions of democracy, which we inherited from the British throughout the years of peaceful transition from a colonial status to that of equal member of the proud Commonwealth of Nations. We are proud of these traditions, and today we have a press which is evidently the envy of many. We therefore believe that the dissemination of information and ideas is very desirable in the quest for the extension of knowledge. At the same time, we have seen only too often that

(Mr. Macaulay, Nigeria)

unregulated freedom has led to licence. And when this happens the end product ceases to be beneficial and often leads to downright blackmail. On a global scale, this can be deliberately directed to interfere with the political structures of any chosen Government. It is of course fatuous to suggest that the consent or approach of every Government on earth must be sought and received before, for instance, producing a copy of The New York Times or putting out any programme on any of the television networks of this country or any other country for that matter. But it is quite another matter to seek to beam, albeit unsolicited, televised programmes which may or may not be slanted, onto the screens of a receiving country without even going through the formality, indeed the courtesy of informing the receiver Government.

We concede that environmental matters, rescue operations, shipping intelligence and other information of a global nature which are mutually beneficial matters need no prior consent. It is our belief that, if Governments are prepared to use such exchanges as an initial basis for defining the element of prior consent, in time an acceptable system which will also guarantee the national and territorial integrity of small countries can be arrived at by consensus or, at least, on terms that could be arranged to the mutual benefit of both sides. A gift that is forced on a recipient ceases to be a gift because the receiver is entitled to ask: "For whose benefit is this?" How then is the proffered information to be classified? Who decides what information goes to whom? My delegation would welcome information that would, for instance, assist in expanding the schools broadcast programmes, which are in their very elementary stages in my country. We would welcome films and feature programmes that would show, for instance the desirability of understanding the moon and the solar system -- and here we give our thanks to Ambassador Cocca for his excellent work -- and other celestial bodies, films that would show just how raw data for remote sensing is collected, processed, stored and eventually used. In the hierarchy of priorities, information on contemporary art or life-styles could at least be postponed until such time as both countries could arrange appropriate negotiations because it is still the contention of my delegation that it is not everything that gives entertainment and sport to one part of the world that will necessarily amuse another part -- and these are matters on which we shall have to work on a sliding scale of priorities.

(Mr. Macaulay, Nigeria)

Finally, my delegation is prepared to discuss with willing delegations the prospect of building an international sounding rocket launching station under United Nations sponsorship in my country. To this end, we should like to direct a special appeal to member countries like the United States, Italy, the United Kingdom, France and many other countries which, through their fellowships, can make it possible for us to train our fellow countrymen in running such a station in international co-operation with other countries.

In closing, my delegation would like to thank bodies like COSPAR, WMO, ITU, INTELSAT, INTER SPUTNIK, IAF and NASA -- to name but a few -- for their valuable contribution to this great human endeavour. It is our contention that if such specialized, intergovernmental and non-governmental organizations can pool their specialized resources for the benefit of a body such as ours, we shall have no reason or excuse to fail the aspirations and yearnings of mankind to expect us to succeed here.

I cannot conclude without taking this opportunity to congratulate the USSR on the success of its new launching and to express the hope that on 4 July the American Viking mission will, as scheduled, land on Mars on target.

The meeting rose at 5.40 p.m.