

JUL 22 1980

UNITED NATIONS
GENERAL
ASSEMBLY

UN/SA COLLECTION

Distr.
GENERALA/AC.105/PV.213
15 July 1980

ENGLISH

COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE

VERBATIM RECORD OF THE TWO HUNDRED AND THIRTEENTH MEETING

Held at Headquarters, New York,
on Tuesday, 1 July 1980, at 10.30 a.m.Chairman: Mr. JANKOWITSCH (Austria)

Organization of work

Applications of space science and technology and activities in outer space:

- (a) Remote sensing of the earth by satellites
- (b) Direct television broadcasting by satellites
- (c) Definition and/or delimitation of outer space and outer space activities, bearing in mind, inter alia, questions relating to the geostationary orbit
- (d) Use of nuclear power sources in outer space
- (e) Space transportation systems and their implications for future activities in space (continued)

Programme and activities of the United Nations relating to outer space

- (a) United Nations programme on space applications
- (b) Co-ordination of outer space activities within the United Nations system
- (c) Co-ordinating role of the United Nations in the use of space science and technology, particularly in the developing countries (continued)

Future work of the Sub-Committees

Other matters

This record is subject to correction.

Corrections should be submitted in one of the working languages, preferably in the same language as the text to which they refer. They should be set forth in a memorandum and also, if possible, incorporated in a copy of the record. They should be sent within one week of the date of this document to the Chief, Official Records Editing Section, Department of Conference Services, room A-3550, 866 United Nations Plaza.

Any corrections to the records of the meetings of this session will be consolidated in a single corrigendum, to be issued shortly after the end of the session.

The meeting was called to order at 11 a.m.

ORGANIZATION OF WORK

The CHAIRMAN: Before opening the debate this morning, I should like to give representatives a short appraisal of our work so far, which has been of a most intensive nature, both in this Committee, in the Preparatory Committee and in various consultations.

The progress of this work has been encouraging in many respects. However, the Committee's workload is still considerable. Agreements which we might be able to reach during this session still have to be worked for in the customary spirit of compromise and understanding which has characterized this Committee's work. I feel it would be of the utmost importance for us and for the major events we are preparing if during this session all outstanding questions, especially those relating to the 1982 Conference, could be settled.

In order for that to be done, renewed efforts will be necessary; renewed consultations will be indispensable; and we shall also have to face the possible need to extend our work another week if agreement should elude us this week. In the meantime, together with the Secretariat, we should make every effort to provide as much meeting time as possible this week by perhaps having a night meeting and looking into the possibility of meeting on the Fourth of July if progress is not sufficient for us to finish within the time frame we set ourselves at the beginning of this session.

Having said that, I hope that none of these extensions will be necessary, and that within the customary time frame we shall be able together, in the traditional business-like spirit that prevails in this Committee, to finish our work as we had planned.

APPLICATIONS OF SPACE SCIENCE AND TECHNOLOGY AND ACTIVITIES IN OUTER SPACE:

- (a) REMOTE SENSING OF THE EARTH BY SATELLITES
- (b) DIRECT TELEVISION BROADCASTING BY SATELLITES
- (c) DEFINITION AND/OR DELIMITATION OF OUTER SPACE AND OUTER SPACE ACTIVITIES, BEARING IN MIND, INTER ALIA, QUESTIONS RELATING TO THE GEOSTATIONARY ORBIT
- (d) USE OF NUCLEAR POWER SOURCES IN OUTER SPACE
- (e) SPACE TRANSPORTATION SYSTEMS AND THEIR IMPLICATIONS FOR FUTURE ACTIVITIES IN SPACE (continued)

PROGRAMME AND ACTIVITIES OF THE UNITED NATIONS RELATING TO OUTER SPACE

- (a) UNITED NATIONS PROGRAMME ON SPACE APPLICATIONS
- (b) CO-ORDINATION OF OUTER SPACE ACTIVITIES WITHIN THE UNITED NATIONS SYSTEM
- (c) CO-ORDINATING ROLE OF THE UNITED NATIONS IN THE USE OF SPACE SCIENCE AND TECHNOLOGY PARTICULARLY IN THE DEVELOPING COUNTRIES (continued)

Mr. GONZALEZ (Chile) (interpretation from Spanish): My delegation feels it appropriate for us to speak at this point in the debate in order to restate some of our ideas on agenda item 4.

As we have said in subsidiary bodies -- and we repeat here -- we have a continuing interest in matters relating to remote sensing of the earth by satellites. In this connexion, the Scientific and Technical Sub-Committee should take especial account in its work of the recommendations for greater co-operation and assistance to the developing countries in the uses of remote sensing technology. We believe it of vital importance to prepare a detailed list of applications of remote sensing which is already quite long.

Here we feel we should point out that even though there are some areas of disagreement, as some States have pointed out, that is no reason for neglecting the study of legal principles. As we stated during the general debate at this session, only an internationally acceptable legal norm can ensure coexistence and co-operation, and we believe that a regulatory body for remote sensing activities should be given further study by the Legal Sub-Committee. Among the legal principles which must be clearly defined are those relating to prior consent for the conduct of remote sensing activities and for the dissemination of data to third States, and principles guaranteeing States whose territory is the object of remote sensing free access to the data and information thus obtained.

(Mr. Gonzalez, Chile)

As far as concerns direct television broadcasting by satellites, a matter being studied by the Legal Sub-Committee, the delegation of Chile feels that a basic condition for finalizing the principles on it should be some formula that harmonizes the principles of freedom of information and dissemination of ideas - principles that Chile has always respected - with the inalienable right of peoples to defend their identity and their social and cultural heritage. What is fundamental for that purpose is a prior agreement between the transmitting and receiving States on direct television broadcasting by satellites. Such agreements and the consultations that would precede them should undoubtedly also be applicable in the case of overspill of national broadcasts, a matter that does, indeed, go beyond purely technical considerations.

With respect to the use of nuclear power sources in outer space, during the general debate my delegation supported the idea that the Legal Sub-Committee should draft principles defining those areas in which it will be necessary to establish new provisions on the use of such power sources in outer space or to complement existing ones. We believe that, as well as maintaining the group of experts that meets during the session of the Scientific and Technical Sub-Committee, appropriate decisions should be taken to enable the Legal Sub-Committee to start work on the drafting of complementary norms on this subject.

Before concluding, my delegation would like to make a few general comments, in particular as regards the legal aspects.

First of all, my delegation would like to emphasize our absolute and unconditional support for the norms and legal texts which make up space law.

The international community wished to make this branch of law something new and novel involving the adoption of radically different principles from those that underly other branches of international law. These principles derive from the concept of outer space as the common heritage of mankind.

It is quite clear that the indiscriminate use of outer space would constitute a flagrant violation of the clear legal obligations deriving from the international legal texts now in force. In particular, such an indiscriminate use of space would run counter to the interests of developing countries and their legitimate right to benefit from the resources of outer space.

(Mr. Gonzalez, Chile)

I would also point out that the treaties governing relations between States in outer space have tremendous moral force in addition to their legal force because they were arrived at by consensus on the part of the States Members of the United Nations. They clearly establish a broad, objective and unlimited liability on the part of those whose activities may cause damage to third parties. Along these lines, it is clear that liability for any kind of damage - direct or indirect, delayed and even moral damage - must be borne by the party concerned. However correct this interpretation may be, these norms cannot be applied without a political will, and that is unfortunately lacking in many of these bodies. Chile concurs in the view expressed by other delegations that complementary principles and norms or a code of conduct should be established laying down regulations for the application of the major principles that have already been mentioned.

Such norms could be based on the theory of the abuse of law, and should relate to the innate right of States to explore and use space; that right would be abused when it was exercised to an excessive degree compared with what was minimal for other States. Our point of departure might be 1920, when the committee of jurists entrusted with preparing the Statute of the International Court of Justice decided to consider this an applicable principle of the law of nations.

There are also other international provisions which establish that there should be compensation for the consequences of actions that are not in themselves contrary to the law but which do cause damage. An example of this is article 22 of the 1958 Geneva Convention on the High Seas. Another is the Treaty of Rome, establishing the European Economic Community (EEC), article 173 of which refers to the EEC Court of Justice.

To sum up, the Chilean position is in strict conformity with the law and my delegation believes that there should be a real space law which fully takes account of the interests of all members of the international community in an appropriate and balanced manner.

Mr. ALBORNOZ (Ecuador) (interpretation from Spanish): Mr. President, I should first like to tell you how pleased my delegation is to see you once again directing the work of our Committee, which is so important in terms of the issues

(Mr. Albornoz, Ecuador)

assigned to it by the United Nations, in terms of the fruit that that work is beginning to bear. In large measure, this reflects your capabilities and dedication, as well as those of the Chairmen of the Sub-Committees and officers of the Committee working with you and the very efficient work of the members of the Secretariat.

We should also like to say how pleased we are with regard to the superb work done by Mr. Carlos Garcia as Rapporteur, whose functions have now been taken over by another eminent diplomat from Brazil, Minister Carlos Bueno.

We are very pleased to see here amongst us four countries acting as observers at this Committee's twenty-third session; in particular this applies to the People's Republic of China, whose request for admission to this Committee will be resolutely backed by Ecuador.

The topic of the future work of the Sub-Committees is, in definitive terms, indeed also the work before the Committee itself, both in its scientific and technical aspects and in its legal aspects, indivisible aspects which we hope will be viewed in their obvious interrelationship at future sessions of those and other bodies of the system, in particular at the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space. In this connexion, I am most pleased to tell you, Sir, that Ecuador will back the initiative launched by your country to the effect that the Conference be held in Vienna, a city with an international calling and hence a promising forum for setting new milestones in the evolution of law, evolving around the cosmic dimensions wherein we are beginning to look and reach for definitions and agreements.

As to the officers of this Conference, my delegation hopes that the same procedure will be used in this connexion as in any other world gathering of the United Nations; in other words, full consideration must be given to geographic balance and equitable distribution of such officers with due respect for the principle of the sovereign equality of States enshrined in the Charter and, in the case of Latin America, in a set of positions that correspond to the proportion of the 30 countries of our area, which not only represent 20 per cent of the total membership of the Organization but include quite a few of its founders.

As to the issues dealt with by this Committee and its two Sub-Committees, my delegation repeats the position that Ecuador has been maintaining at previous meetings, namely the following:

(Mr. Albornoz, Ecuador)

We are categorically opposed to the military use of outer space since it has been conceived as a realm of peace and of service to the cause of peace and well-being rather than as a theatre for espionage and the launching of satellites or satellite-hunter devices that might be the precursors of a universal catastrophe.

With regard to direct television broadcasting by satellites, Ecuador reaffirms the right of every country to be consulted in advance of the formulation and transmission of programmes so that the country affected will not be treated merely as a pocket of captive listeners.

(Mr. Albornoz, Ecuador)

Television broadcasting by satellite must be the subject of prior agreement between the sending and receiving States. In addition, personnel of the receiving countries must be given the opportunity to participate in and to receive technical training with regard to such broadcasts, so that the cultural values of each country may be respected in the face of the possible cultural alienation entailed by broadcasts of a given thrust for groups of countries of different backgrounds.

With regard to the use of nuclear power sources in outer space, Ecuador hopes that the Working Group will continue its consideration of this item in the same skilful and timely fashion in which it has been dealing with it hitherto, with a view to ensuring respect for the obligation of prior notification by the launching State, the commitment to clean up outer space and remove the debris beginning to accumulate which may be dangerous, if they are radioactive when they fall back to earth. It will also take up still further aspects deserving study and on which universally accepted legislation should be worked out.

As to remote sensing of the earth by satellite, Ecuador reaffirms its position that the sensed State has a priority right to receive cost-free the information thus obtained, which is part and parcel of its national heritage, as well as the right to be consulted before such information is turned over or passed on to third parties in exchange for financial or political gain.

My delegation reaffirms the need for a definition or delimitation of outer space, or both, for the absence of such a definition is a loop-hole in the Outer Space Treaty, in view of the fact that, for our country, there must be respect for the sui generis features of the geostationary orbit, which is a specific and separate quantity in outer space in terms of its physical properties directly related to the earth as well as in terms of the legal implications of its use. In this connexion it is imperative to arrive at regulation of the use of the geostationary orbit, since this is a natural resource which is finite, limited and, regrettably, saturated because it has been used on a totally unacceptable first-come, first-served basis.

(Mr. Albornoz, Ecuador)

The use of the geostationary orbit cannot be made contingent solely on the technological and economic capacity of countries or on any right of seniority because the space Powers arrived there first. In that way, the concept of equal use becomes paradoxical, because there cannot be equality when there are imbalances between the different countries with respect to the means and the opportunities of using this orbit. But economic and technological superiority must give way to rights. Words must be replaced by acts. Instead of making statements we should be applying methods in tune with international law enshrined in regulations for the use of the geostationary orbit. This is something that brooks no further delay and something that only the United Nations can do on behalf of the world community.

On this score, the Ecuadorian delegation wishes to reaffirm its previous statements - which coincide with those by Colombia, Indonesia and other States crossed by the equator - to the effect that such States have rights over their respective segments of the geostationary orbit, and that this resource must be used for the benefit of their peoples and of the international community as a whole, particularly the developing countries.

In this context I am pleased to recall resolution BP of the World Administrative Conference on Radiocommunications (WARC-79) held in Geneva last year, which officially recognized the need to plan for the use of the geostationary orbit, bearing in mind the special geographical position of certain equatorial countries. This is clear from the records of that Conference and was pinpointed in reservation number 79 formulated by eight equatorial countries.

We have been most pleased to hear the encouraging statements in support of this position made by other delegations, such as that of Mexico, in the current debate. The five countries of the Andean Group - comprising Colombia, Bolivia, Peru and Venezuela, along with Ecuador - together with Spain supported our argument as equatorial countries in a statement they all signed in Quito on 14 March of this year.

(Mr. Albornoz, Ecuador)

We also listened with interest and approval to the statements of various countries members of this Committee rejecting the stance of certain parties appropriating to themselves perpetual rights for locating satellites in the crowded geostationary orbit, something which runs counter to clear-cut principles of international law. Equally unacceptable is the emplacement of fixed position devices in segments of the geostationary orbit above equatorial countries without prior agreement from the respective underlying equatorial country.

Those are some of the issues on which my delegation believes that the future tasks of the programme of work, the time-tables and the order of priority of the two Sub-Committees as well as the Working Group on the use of nuclear energy sources in outer space should be focused.

I believe that our Committee would thus continue to carry out its lofty role as a centre of understanding, of recognition of the contributions and the progress of some countries and of the right of all of us to have this turned to the service of the world community, with specific and commendable results such as the Moon Treaty, which makes us hopeful of new achievements on other important questions entrusted to this Committee.

Mr. COIMBRA (Brazil): My delegation has already expressed its view on the main issues of the agenda items under consideration during the general debate as well as on many other occasions. Therefore, I shall at this stage be as brief as possible and limit my remarks to two specific matters.

The first has to do with remote sensing and, more specifically, with document A/AC.105/L.118, which states that the Scientific and Technical Sub-Committee has not reached final agreement on the key issues involved, among others, the classification and dissemination of primary data. I do not want to go into the substance of this matter, since the position of my delegation has been explained at length on previous occasions. I should just like to point out the fact that the Scientific and Technical Sub-Committee has not reached a consensus on the advisability of making a distinction between "primary data" and "analysed information" for the purposes of classification and dissemination of data. As the report of the Scientific and Technical Sub-Committee itself clearly states, the question is still open. For that reason, my delegation would have preferred more precise language in that document, so as to reflect the actual state of the debates taking place in the Scientific and Technical Sub-Committee and to avoid misunderstandings.

My second observation relates to the use of nuclear power sources in outer space. Here again the position of my delegation is well known, and I do not need to describe it in detail. I should like, however, to state that we support a thorough examination of the use of nuclear power sources by the Legal Sub-Committee. In particular, we attach special importance to the elaboration of international provisions on notification and radiological projection, that is, on determination of maximum limits of exposure to radiation, measures of radiological precaution and so on.

(Mr. Coimbra, Brazil)

I should like to say a few words on the item entitled "Programme and activities of the United Nations relating to outer space". My delegation continues to regard the outer space programme with great interest. We are happy to note that the first stage of the study on the current and potential benefits to Member States of space science and technology has been presented to the Scientific and Technical Sub-Committee for its consideration, and we expect that further progress will be achieved in this matter.

My delegation also followed with attention the proposal made by the delegation of Argentina during the general debate that it act as host for a regional remote sensing centre. We support that proposal and we are convinced that the centre will play a major role in the development of Latin American activities in research and training in the field of outer space.

Mr. CAMPINS (Venezuela) (interpretation from Spanish): In connexion with the statement made yesterday morning by the representative of Canada, my delegation considers the basis of the Canadian statement sufficiently valid for the Legal Sub-Committee to start work on drafting a body of international legal norms regulating the activities of States in the field of the use of nuclear power sources in outer space. The reasons for establishing new norms are quite obvious: the current provisions are simply not adequate.

If nuclear power sources are to be used in outer space, mankind should at least be assured that all possible technical measures have been taken to reduce to a minimum the danger of an accidental release of nuclear material.

In addition there should be norms so that States take steps to prevent accidents similar to the ones that have occurred, although fortunately without the loss of human life.

The four main areas identified by the Canadian delegation as possible subjects for legislation - namely, information on the use of nuclear power sources, prior notification of re-entry, assistance to States and protection from exposure to radioactive materials - appear to make up a satisfactory list of the areas to be covered by additional norms.

The delegation of Venezuela is pleased that the item is to be included on the agenda of the Legal Sub-Committee and hopes that more time will be devoted to the question at the next meeting of the Sub-Committee. My delegation also feels that the best approach would be the setting up of a working group of the Legal Sub-Committee.

Mr. MANDESCU (Romania) (interpretation from French): The Romanian delegation listened with great interest to all that was said yesterday during our discussion on items 4 and 5 of our agenda. On that basis, we should like now to turn to the ideas put forward on the delicate issue of remote sensing, adding certain of our own thoughts and suggestions as regards the future work of our Committee and of its Sub-Committees.

We are fully aware of the fact that the two Sub-Committees are striving to make their contributions to shedding more light on the technical and legal matters, on the basis of which we should be able to develop legal instruments to guide us and remote sensing activities in the future. It seems to us, however, that that issue is but one aspect of the problem with which this Committee should concern itself. It appears that we are losing sight of another element, namely, the need to find solutions in terms of practical organization for giving momentum to the application of remote sensing by all countries, particularly developing countries, so that those countries may use that technology effectively.

It appears to us that the clarification of the legal implications will require a good deal of time as well as practical experience. That is why we feel that time is required for us to reach a meeting of minds on these issues, and that probably only experience and practical work will help us to resolve them. We also feel that regulations must be realistic and that they must not impose unjustifiable technical limitations that might impede access to new technologies and to the progress made in the area of remote sensing by countries unable to launch their own satellites.

In that connexion, it is our opinion that the wording of the agenda items on these issues, for example, "Remote sensing of the earth by satellites", does not reflect the urgent need to decide on ways and means of creating the technical and legal preconditions for allowing all countries to make use of this new technology. That manner of articulating the issue has led the Scientific and Technical Sub-Committee to deal with and to continue its attempts to resolve scientific problems such as that of remote sensing resolution. Such a scientific approach, in our view, should be left to international scientific organizations within the purview of which they fall, while we should focus our work, in particular, on the practical aspects of the applications of remote sensing technology.

(Mr. Mandescu, Romania)

In conclusion, we share the opinion that the agenda item on remote sensing must be worded in such a way as to help countries to take steps to organize co-operation within the framework of and with the backing of the United Nations and its specialized agencies, so that all countries, and particularly developing countries, may obtain and make full use of data obtained by remote sensing.

I should like to take advantage of this opportunity to say that my delegation shares the opinion voiced here yesterday by Professor Yash Pal concerning regional remote sensing training centres.

Mr. BENEDETTI (Italy) (interpretation from French): I should like to say a few words to pin-point our stand on direct television broadcasts.

The Italian delegation reiterates its opinion that satellite-based direct television transmission must be regulated appropriately and economically within the framework of outer space law, taking account of agreements reached in other forums having a different thrust and orientation.

As the Italian Government sees it, such regulation must be guided by the principle of the free circulation of information, a freedom that includes, among other things, free access by all to all information sources as well as the right of all to speak out freely without, as we have said a number of times, that freedom being construed as some sort of licence.

Unconditional attachment to the principle of the free circulation of ideas and information implies that no code of conduct based on the principles of consultation and agreement among States must be construed to mean an instrument of censure.

We feel that an acceptable solution might be based on a definition of consecutive responsibilities, taking into account the principles and contents of programmes defined as illicit and inadmissible. Thus it would be possible to avoid direct television broadcasting becoming a source of propaganda and also to take into account certain concerns that have quite justly been voiced by a number of delegations here. At the same time it would be possible to meet the general expectation, particularly keenly felt by the young, that direct broadcasting from satellites will become an instrument of universal brotherhood and mutual awareness of different ideas and realities.

Mr. CHAMBERLAIN (United Kingdom): My delegation would like to address itself to one particular aspect of the future work programme of this Committee.

For some years now, the question of nuclear-power sources has been on the agenda of the two Sub-Committees. In the Legal Sub-Committee last year, a fairly full discussion of this item took place. As regards our general attitude to this question, my delegation continues to support the Canadian initiative contained in the working paper that Canada submitted to the Legal Sub-Committee last year. However, my delegation is of the view that we must not stop at mere discussion. We believe that this issue needs to be considered now in greater

(Mr. Chamberlain, United Kingdom)

depth. We are satisfied that a review of existing international law to govern the use of nuclear-power sources in outer space took place in the Legal Sub-Committee. In the view of this delegation that review disclosed that certain gaps in existing international law are apparent. We believe that this subject needs to be inscribed as a priority item on the Legal Sub-Committee's agenda, and for that purpose we consider that a working group should be established in which the differences that continue to exist may be reconciled in the form of an acceptable modus operandi for the future.

Mr. BUDAI (Hungary): As we stated in the course of the general debate, we do not see any need to supplement international law with special provisions or legal instruments on the use of nuclear power sources since contemporary international law, and in particular treaties concluded in the field of the peaceful uses of outer space, provide adequate regulations for the use of nuclear power in space. Therefore my delegation holds the view that the establishment of a working group within the Legal Sub-Committee is unnecessary, the more so since there are other very important items on the agenda of that Sub-Committee that will consume considerable time at its next session.

For the same reasons we are not in favour of making this question a priority item. However, we are not opposed to the idea of further studying existing international law in order to improve the safe use of nuclear power sources in outer space. We have in mind particularly the proposal of the delegation of the USSR to take up the question of the legal aspects of technical assistance for States on whose territory parts of damaged space objects carrying nuclear power sources might fall. We support the Soviet proposal that this issue be discussed within the framework of the Working Group of the Scientific and Technical Sub-Committee.

We also support the proposal to include in the agenda of the Scientific and Technical Sub-Committee a new item on ensuring the health and longevity of man under conditions of protracted space flight. Hungarian scientists have in past years been actively involved in biomedical research, in cosmic-radiation biology and cosmic physiology. Therefore my delegation welcomes the above-mentioned proposal of the Soviet Union, the adoption of which

(Mr. Budai, Hungary)

would be in the best interests of further international co-operation in this particular field of space research activities.

There is one more question I wish to touch upon - namely, the general exchanges of views in the two Sub-Committees. In our opinion it would certainly be a mistake to abolish the good tradition of the Sub-Committees having general exchanges of views before starting to deal with specific topics on their agendas. Those debates have always contributed to the success of their work, and we strongly believe that the general exchanges of views have helped us better to understand the positions of the Member States, not to mention the usefulness of up-to-date information about the outer space activities of Member States that is usually presented in plenary meetings of the Scientific and Technical Sub-Committee.

Mr. BOND (United States of America): We should like to make a few remarks on the important subject of the use by States of artificial earth satellites for international direct television broadcasting.

It is apparent to all of us that a successful conclusion to the direct-broadcast-satellite (DBS) negotiations requires a thorough understanding and careful balancing of complex legal, technical and political factors. The formal and informal discussions at the last meeting of the Legal Sub-Committee brought that complexity home to all of us. For example, it became apparent that there are several principles concerning which the utmost ingenuity and effort will be required before agreement can be reached. In this regard, it may be useful to put forth several factors which in our view must be taken into account for such an effort to succeed.

For the United States, recognition of the right to seek, receive and impart information and ideas through any media and regardless of frontiers is a crucial part of these principles. We recognize that other States have strong feelings about their sovereign right to be free from intervention in their internal affairs.

(Mr. Bond, United States)

It must be recognized that consensus cannot be achieved by ignoring either of those deeply held views.

There took place at the last session of the Legal Sub-Committee an exceptionally detailed discussion of the legal and technical context within which direct broadcasting by satellites must take place. Briefly put, that discussion made clear that, as a legal and technical matter, direct television broadcasts can take place only pursuant to the relevant instruments of the International Telecommunication Union (ITU). We believe that the norms contained in these instruments of the ITU provide more than adequate protection for the legitimate interests of all States.

Taking these factors, among others, into account, we believe that the gap in positions is narrowing to some extent. We look forward to continued efforts on this matter.

Mr. KNUTH (German Democratic Republic): For many years now, scientific, technical and organizational problems relating to remote sensing of the earth, as well as regulations of international law governing this promising method of utilizing outer space, have been on the agenda of our respective Sub-Committees. Unfortunately, my delegation too shares the concern already expressed by many other delegations during the general debate - namely, that only very limited progress has been achieved in the past and may be expected for the near future. Since the main differences still persist with regard to questions relating to classification and dissemination of remote sensing data and information, we are of the opinion that the only possibility of moving forward is through the establishment of a panel of experts. This could provide the possibility of solving technical aspects of the different problems on a high professional level on which a consensus may be reached.

The problem of finding appropriate resolution parameters is, of course, a complicated one, but, in our opinion, spatial resolution constitutes the most important, most simple and most appropriate criterion for classifying data and information obtained from remote sensing.

(Mr. Knuth, German Democratic Republic)

As to the protection of the sovereign, economic and security interests of sensed States, we deem it necessary to formulate legal provisions on the basis of such a classification for the purpose of utilizing and transferring data and information about a sensed State to third parties. Each State must be granted the right to issue specific restrictions relating to the utilization and transfer of highly sensitive data and information about its territory which are obtained by remote sensing. The argument frequently used by a number of delegations - that to date they have not been aware of any disadvantage arising from the free dissemination to anybody of remote sensing data about any country - is not, in our opinion, a very valid one.

In a number of forthcoming satellite projects, spatial resolution will increase rapidly and remarkably, and the critical level for continuously monitoring small objects on the surface of the earth will soon be reached. Do we really have to wait for the first complaint about a clear misuse of remote sensing data or for the question the General Assembly might ask our Committee: Was it not possible for you to foresee such a technical development and to take the necessary precautionary measures for a legal system in due time?

Nearly the same might be true of the problem of direct broadcasting by satellite. In this field too, we are witnesses to very rapid development in technical means to transmit information by radio and television to large parts of the world, using satellites in outer space. But, like many other delegations, we share the concern that in the next few years these new possibilities can easily be used against the political, cultural and socio-economic interests of United Nations Member States, violating their sovereign rights. In order not to undermine, but to strengthen, international co-operation it is of decisive importance whether this information helps to promote understanding among peoples and is conducive to observance of the principles of sovereign equality, non-interference in the internal affairs of other States, or, rather, is likely to erode those principles.

(Mr. Knuth, German Democratic Republic)

We view the negotiating text submitted to the Legal Sub-Committee by Canada and Sweden as a well balanced compromise formula, especially with regard to the principle of consultation and agreement between States.

Now let me turn to the question of the delimitation of outer space.

My delegation deems it absolutely necessary to have a definition as to where outer space begins. While it is true that the lack of such a definition has not so far prejudiced the carrying out of space flight activities, we feel that the possibility of increasing disorder due to the absence of internationally agreed provisions on such an altitude as a lower boundary of freely accessible space cannot be ruled out at all, since space transportation systems will continue to expand. In our judgement, the definition of this boundary should be based exclusively on prevailing conditions relating to the physical nature of the earth's atmosphere, rather than on specific space research techniques, for a boundary so established will not be subjected to any future change and, consequently, will not require continual revision to permit us to keep abreast of further technological developments.

We strongly advocate that the height of 100 kilometres be established, because the argument sometimes heard - that this height, as well as any other, would be an arbitrary one - is simply not correct.

(Mr. Knuth, German Democratic Republic)

If one looks at models of the earth's upper atmosphere one will find at 100 kilometres the so-called homopause with but little difference in altitudes with solar activities and so on. Below this altitude we have the so-called homosphere in which the mixing ratio of the atmospheric constituents equals the one directly above the earth's surface. That means that, despite the strongly decreasing density, we can rightly call the region up to 100 kilometres "air space". The mean molecular weight in the homopause is almost exactly the same as here in this conference room, but above 100 kilometres result of the extreme solar ultraviolet radiation, the atmospheric molecular constituents are destroyed and the newly created atomic gases, such as nitrogen, oxygen, helium and hydrogen, very suddenly and effectively start to diffuse upwards. That means that in this region above 100 kilometres, which is called the heterosphere, we find an atmospheric composition which is governed by different physical laws and is totally different from the homosphere, and the mean molecular weight radically decreases with altitude. In addition, no stable orbital flight of a satellite is possible below this height and it is only in very rare cases that satellites with a highly eccentric orbit may have perigees some kilometres lower than the said height. We feel, therefore, that we have good reasons to choose the homopause, as the natural outer space.

My delegation of course believes that the geostationary orbit is an inseparable part of outer space and that no segments thereof can be claimed to be national property, but being aware of the reservations of some delegations in this regard we should like to raise the question whether we should not preferably take a realistic and practical approach and leave the question of the geostationary orbit open for solution at a later time.

In concluding my statement, I should like to express my delegation's view concerning nuclear power sources in outer space. In paragraph 8 of its report (A/AC.105/C.1/WG.V/L.15), the Working Group on the Use of Nuclear Power Sources in Outer Space has reaffirmed the agreement that appropriate measures for adequate radiation protection during all phases of an orbital mission of a spacecraft with NPS - that means launching, parking orbit, operational orbit and re-entry - should be derived from the existing internationally recognized basic standards recommended by the International Commission on Radiological Protection (ICRP). We therefore

(Mr. Knuth, German Democratic Republic)

see no real basis for adding specific rules to these existing and binding standards, but we are ready to take part in the discussions of the Working Group in the future.

Mr. RICHER (France) (interpretation from French): I just wanted to say a word about the delimitation of outer space. As is known, this question has always been a matter of great concern to the French delegation. I will not go into the technical aspects of it, but I do believe that the matter is even more complex than some delegations seem to think and that even today it is an extremely difficult issue. It is very difficult to establish scientific criteria for delimiting outer space. Since we are coming to item 6, the "Future work of the Sub-Committees", the French delegation would suggest that we keep this item on the agenda, but bear in mind the fact that is becoming increasingly complex. That is why we feel that it should be dealt with as comprehensively as possible and that the Scientific and Technical Sub-Committee should continue to study this issue.

To define outer space, it will be increasingly necessary to take account of criteria which, by their very nature, evolve with time.

FUTURE WORK OF THE SUB-COMMITTEES

OTHER MATTERS

The CHAIRMAN: I should like to remind members that this will be the last meeting of the Committee in which statements on various agenda items - and in particular agenda items 6 and 7 - can be offered to the Committee. I refer to the annotated agenda contained in document A/AC.105/L.118; where a number of matters which have to be taken up by the Committee are outlined. Any comments from members on these matters will be of help to other delegations and to the Rapporteur in drawing up his draft report.

Mr. RICHER (France) (interpretation from French): I really do not know under which item I can speak, but what I wanted to talk about is the agenda for the next session of the Committee. I think our experience over the last three days shows that the way we organized our agenda allowed us a fairly rapid and coherent organization of work. I will not reopen our debate last year which was extremely

(Mr. Richer, France)

protracted on how we should draw up our agenda. I should just like to say that the French delegation is very much aware of the fact that the two Sub-Committees have to continue working, each in its own area of competence, and we have absolutely no intention of suggesting that they should be merged, certainly not. The legal aspects and the scientific and technical aspects are so different and both so important that the two Sub-Committees will probably continue to operate for a long time.

However, I should just like to suggest, Mr. Chairman, that when you are drawing up the next agenda you bear in mind our experience here in taking this thematic approach and that it was extremely effective.

The CHAIRMAN: Since there are no further speakers, we have thus concluded agenda items 6 and 7.

The meeting rose at 12.10 p.m.