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COMMITTEE ON THE PEACEFUL USES OF OUTER SPACE

LEGAL SUB-COMMITTEE

Eighth Session

SUMMARY RECORDS OF THE ONE HUNDRED AND ELEVENTH TO THE ONE HUNDRED AND THIRTY-FIRST MEETINGS

held at the Palais des Nations, Geneva,
from 9 June to 4 July 1969

The list of representatives attending the session is found in the report of the Sub-Committee on the Peaceful Uses of Outer Space on the work of its eighth session (A/AC.105/58, Annex VI)

Chairman: Mr. WYZNER (Poland)

GE.69-22434

SUMMARY RECORD OF THE ONE HUNDRED AND TWELFTH MEETING

held on Wednesday, 11 June 1969, at 10.45 a.m.

Chairman: Mr. WYZNER Poland

STUDY OF QUESTIONS RELATIVE TO (a) THE DEFINITION OF OUTER SPACE; (b) THE UTILIZATION OF OUTER SPACE AND CELESTIAL BODIES, INCLUDING THE VARIOUS IMPLICATIONS OF SPACE COMMUNICATIONS (agenda item 3) (A/AC.105/C.2/L.40/Rev.1, A/AC.105/C.2/L.45 and L.46)

The CHAIRMAN invited the Sub-Committee to take up agenda item 3. He reviewed the progress made since the Sub-Committee had been entrusted with the topic by the General Assembly.

So far as concerned the definition of outer space, he recalled that the Scientific and Technical Sub-Committee had stated, in reply to the Legal Sub-Committee's questionnaire, that it was not possible at that stage to identify scientific and technical criteria which would permit a precise and lasting definition; and that a definition of outer space, on whatever basis, was likely to have important implications for the operational aspects of space research and exploration. The Scientific and Technical Sub-Committee would continue its consideration of the matter. It had not done so, however, at the session it had held early in 1969. The Legal Sub-Committee, for its part, had decided to continue studying the subject.

The Legal Sub-Committee had in 1968 adopted two resolutions pertaining to the utilization of outer space. Pursuant to the first, the Committee had set up a Working Group on Direct Broadcast Satellites. In the second resolution, the Legal Sub-Committee had recommended that the Committee should request the specialized agencies and IAEA to consider and report to the Committee on the particular problems that had arisen or might arise from the use of outer space. No communication on that subject had yet been received by the Sub-Committee.

Two other proposals had been made at the Legal Sub-Committee's last session. The first (A/AC.105/C.2/L.45)[1], submitted by France, related to a draft convention concerning the registration of objects launched into space for the exploration or use of outer space. It had been agreed that the topic might be considered at the eighth session, under agenda item 3. The other proposal (A/AC.105/C.2/L.46)[1], made by Czechoslovakia, pertained to the utility of elaborating the legal principles on which the creation and functioning of space communications should be based.

1/ See report of the Legal Sub-Committee on the work of its seventh session, Official Records of the General Assembly, Twenty-third session, agenda item 24, document A/7285, annex III, appendix II.

Mr. CHARVET (France) said that, at the seventh session, his delegation had proposed that the Sub-Committee should seek a definition of outer space based on a conventional criterion.

Furthermore, in view of the fact that space law would, in the last analysis, be applied far more on earth than in outer space properly so-called, his delegation had affirmed that the idea of the environment in which space activities took place was basically less important than the purpose of such operations. It had seemed to his delegation that a definition of space activity must first be found, and at the seventh session (102nd meeting) it had proposed that the expression should be taken to mean "any activity involving the sending into space of an object designed to permit the exploration and utilization of outer space". In its view, that definition had the advantage of using three complementary and inseparable notions: action, place and purpose.

The notion of action eliminated other activities (astronomy and radio-astronomy) which it was unnecessary to subject to space law. From the point of view of place, launchings into space would include both satellites orbiting in outer space and exploratory balloons or rockets which did not rise above atmospheric space. Lastly, as to purpose, the definition would cover all activities connected with the exploration or utilization of outer space, including exploratory balloons and rockets, but not including aircraft, even if they entered outer space, since, being intended to link one point on earth with another, they had no space purpose. Once it had made an inventory of space activities, the Sub-Committee would naturally move on to define their exact environment, i.e. outer space itself. The demarcation between that space and national airspace could, for practical reasons, be set at an altitude of about 80 km

So far as concerned the uses of outer space, his delegation had also, in 1968, raised two problems which deserved priority attention: the registration of space objects and the organization necessitated by the development of applied space activities Since it considered that the optional registration procedures provided for in article V of the 1967 Treaty were inadequate, it had proposed a draft convention on the registration of space objects. Though agreement on mentioning that draft in the Sub-Committee's resolutions had not been reached, his delegation still held that the proble should be studied as soon as possible. On the other hand, since the 1967 Treaty established only general rules concerning the use of outer space, his delegation had drawn attention to certain space activities (telecommunication by satellite, meteorolog and direct television) which already went beyond the sphere of pure research. To avoid conflicts, it was important to specify the various competent authorities recourse to

which would have to be compulsory. In any case, the power of decision in the matter must rest with States, or associations of States, and all States should be able to choose the programmes and organizations in which they wished to participate. All such activities should be conducted within the framework of a general body of regulations, and any conflicts which arose should be submitted either to agencies such as ITU, ICAO, WMO and UNESCO as appropriate, or to a new international organization. He expressed regret in that connexion that the specialized agencies which his delegation had suggested should be consulted had not yet replied. It was only after all pertinent information had been assembled that space activities could be given a legal status in keeping with the broad principles of article IX of the 1967 Treaty, namely one based on mutual co-operation and assistance.

Mr. PIRADOV (Union of Soviet Socialist Republics) congratulated the United States on the success of the Apollo programme. Successful space science and technology evidently raised a large number of new problems, and activities connected with the exploration and use of space should be given a legal status. It was gratifying to note the valuable contribution made by the Legal Sub-Committee, which had participated in the preparation of the 1967 Treaty and the 1968 Agreement. The United Nations Conference on the Exploration and Peaceful Uses of Outer Space, held in 1968, had been a milestone on the road to international co-operation; it had shown that most States wished outer space to be reserved for peaceful co-operation between States and to be made the subject of an agreement specifying the conditions of its use.

The Soviet delegation considered that the Sub-Committee should examine the interesting proposals submitted by the Czechoslovak delegation on a specific problem closely connected with the legal and other consequences of satellite communications. In accordance with the 1967 Treaty, telecommunications must be used by States for the good of mankind with a view to strengthening friendly relations between countries.

The conclusion reached by the Scientific and Technical Sub-Committee that it was impossible, for the time being, to identify the scientific and technical criteria which would permit a precise and lasting definition of outer space, in no way implied that the Legal Sub-Committee should not tackle the legal aspects of the problem.

The French delegation's proposal for the registration of objects launched into space should be considered very carefully; but the USSR delegation was of the view that present practical requirements were satisfied by the existing registration system.

The Sub-Committee's main task was to prepare the draft convention on liability for damage caused by objects launched into outer space. That draft had been under consideration for five years and, despite the delicate legal problems raised by the idea of liability, it should eventually become an international instrument acceptable to all States, however different their legal systems might be. The views of States were well known, and need not be repeated. Outstanding problems could and should be resolved as a whole, given a real desire to reach a solution and to accept a reasonable compromise. The USSR delegation, for its part, was most anxious to carry out the General Assembly's decisions and to forge ahead, although, in the spirit of compromise which should prevail, it was prepared to contribute constructively to the achievement of the desired solution. Specifically, it was prepared to agree that the convention on liability should cover nuclear damage; to agree that the convention, even if not extended to cover nuclear damage, should not limit liability; to accept the Indian compromise proposal concerning the applicable law, and, in particular, to agree that compensation should be defined in accordance with international law, taking into account the laws in force in the respondent State as well as those in force in the claimant State; and, lastly, to agree that the international or intergovernmental organization with competence in all matters relating to activities in outer space, the majority of whose member States would have participated in the preparation of the convention on liability, should be held liable, in accordance with the provisions of the convention, for the damage it caused.

The Soviet delegation hoped that all other States represented on the Sub-Committee would indicate their willingness to make similar concessions on those points, so that the only outstanding problem would be that of the procedure for the settlement of disputes. States with different economic and social systems held different opinions on that problem, but such divergencies of views were outside the scope of the convention on liability, and agreement would be possible only if provisions acceptable to all parties could be drawn up. He hoped, however, that the Legal Sub-Committee would spare no effort to ensure that the work of its eighth session was not ineffectual, and that it would see that some progress was made at last with the law of outer space.

Mr. AMBROSINI (Italy) observed that the representatives of France and the Soviet Union had clearly indicated their positions on the question of the demarcation between atmospheric space and outer space, and on the use of outer space. His own delegation was able to accept, in broad outline, the solutions proposed to those problems, particularly that proposed for the demarcation problem. The Sub-Committee should speak

of "demarcation" rather than "definition" in that context, since the latter term conveyed no precise meaning to the jurist. Demarcation was of great practical importance for a reason which, from the legal viewpoint, was fundamental - atmospheric space was under the sovereignty of States in accordance with a well-established principle of international law, whereas, according to the principles set forth in the 1967 Treaty, outer space was res communis for mankind as a whole. Owing to that essential difference between the legal regimes of those two parts of space, it was vital, from a strictly legal point of view and notwithstanding the arguments of those who maintained that it was unnecessary to find a solution immediately, that the problem should be solved at once.

As to the use of outer space, some maintained that the only present known use was for communication satellites. Such activities would expand considerably, however, and it could easily be seen even now that space would be used for other practical purposes. The list of possible uses which the French representative had suggested should be drawn up would as yet no doubt be merely hypothetical, but it would nevertheless be very useful to consider straight away the establishment of a body competent to authorize or prohibit certain uses. The use of space by all States for any scientific purpose should, of course, be authorized, but what mainly required thought was its use for economic purposes. The 1967 Treaty stated, as a principle, that the exploration and use of outer space should be carried out for the benefit and in the interest of all States, without discrimination. That principle should be interpreted in the broadest sense, namely, that the benefits of the use of outer space should be distributed equitably among all States. That idea was the more important since the principle of equitable distribution had already, although as yet unofficially, been endorsed by the States which were at present considering ways and means of regulating the use of the sea-bed and the ocean floor.

Moreover, traffic in outer space was assuming proportions which called for the adoption of regulations without delay, as in the case of air traffic, to which ICAO, a United Nations specialized agency, devoted all its attention. And it was not only the problem of the actual movement of space vehicles in traffic which required early study and solution, but also that of their registration; and the French preliminary draft on the matter would have to be carefully studied by the Sub-Committee.

There was another problem which, in the Italian delegation's view, also required early solution and on which the Sub-Committee would have to make up for lost time, because it should shortly be prepared to submit to the General Assembly a draft

resolution as requested by that body in resolution 2345 (XXII) of 19 December 1967: it was the problem of liability for damage caused by objects launched into outer space. The Sub-Committee had before it a very large number of drafts, the most recent having been submitted by Italy (A/AC.105/C.2/L.40/Rev.1). In that draft, the Italian delegation had tried to incorporate certain provisions from the other draft texts submitted and a number of points already accepted by the Sub-Committee; it had tried above all to avoid undue complication and to propose general terms of a kind likely to meet all contingencies.

Mr. BOYD (United States of America) thanked the Chairman and the representativ of the Soviet Union for the congratulations which they had offered to his country. He wished in his turn to congratulate the Soviet Union on its own success in its outer-space exploration programme.

He would confine his remarks for the time being to the draft convention concerning the registration of objects launched into space, which had been proposed by the French delegation and which his Government had studied carefully. Essentially, the French proposal called for the establishment of multiple registers, which would be maintained by individual Governments or groups of Governments and which would contain certain information. Under the terms of article 3 of the draft convention, the registration number would be displayed in at least two places on the space object and on opposite sides thereof, if the size of the object permitted; it would be shown on at least one identification plate inside the object, and "be repeated as frequently as possible in order to permit identification, in case of accident, of portions or component parts of the object".

In considering the proposal, his country had weighed it against the registration system instituted in accordance with General Assembly resolution 1721B (XVI) of 20 December 1961, in accordance with which his country regularly reported, for the purposes of the public registry thus established, the following information in respect of all its satellites launched during the reporting period: international designation, launch vehicle, spacecraft category, date of launching, nodal period, inclination, apogee and perigee. The purpose of the United Nations public registry was to record the objects launched, but not to indicate their nationality; moreover, the country registering the object with the United Nayions and the country of ownership might well be different. His country, for example, informed the United Nations of objects launched by other countries, but did not indicate the nationality of the objects in question.

The purpose of the French proposal, on the other hand, was to place on record the nationality of objects launched into outer space, using the term "registry" as it was used in article VIII of the 1967 Treaty and in paragraph 7 of the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space (General Assembly resolution 1962 (XVIII) of 13 December 1963). In those provisions, registration was connected with the obligation to return space objects to the State "on whose registry they are carried". The purpose of the french proposal was apparently to provide a method of identifying the owner of a particular object after its return to earth, especially in cases where damage was caused by the object.

The United Nations registry did not in itself serve as a means of establishing the ownership of space objects, but there were reasonably precise identification techniques, consisting mainly of the analysis of time and trajectory of re-entry, the analysis of certain bolts, component parts and alloys, and the examination of any marks and numbers which might have survived re-entry.

His country had a space tracking network which made it possible to detect and track spacecraft within a short time of a launch anywhere in the world. The National Aeronautics and Space Administration (NASA) published twice a month information which to a large extent duplicated that which his country submitted to the United Nations registry, and which, in addition, related to objects launched by other States and by international organizations, identifying in each case the launching authority.

It would undoubtedly be useful, from the standpoint of potentially claimant States, if there were an objective means of determining the ownership of space objects which was not dependent upon the technology of potential respondent States. The French proposal attempted to establish such a system by linking numerical designations marked on space objects to entries in open national registers. The idea itself was a valid one, but his country had serious doubts as to the technical feasibility of the proposal as it now stood.

One fundamental difficulty was the lack of precision as to how space objects would have to be numbered in order to permit identification. According to the proposal, the number must be displayed in "at least two places on the object" and on an "identification plate inside the object." The second paragraph of article 3, implied, furthermore, a substantially more comprehensive numbering system, stating that the number "shall be repeated as frequently as possible in order to permit identification". It could reasonably be argued that numbering should afford the best possible chance of identification, without, however, obliging the launching State to

incur unreasonable expense, without imposing any inconvenience upon it or without requiring it to modify the aerodynamic or structural qualities of the space object. Even under that interpretation, however, a basic problem remained: his country could not envisage any numbering system that would accomplish the French objective of ensuring a reasonable chance of identification, without at the same time imposing an undue burden on the launching State.

To ensure identification of a large booster or spacecraft, the thousands of components which might conceivably survive re-entry would have to be marked, and that would be extremely costly. If identification plates were attached, they would add significantly to the space object's weight, and, if they were attached by screws or rivets, they would threaten its structural integrity.

Moreover, launch vehicles and spacecraft were composed of thousands of components manufactured by a large number of contractors and sub-contractors, and, while spacecraft might be manufactured with a specific purpose in mind, launch vehicles and many spacecraft components, on the other hand, were not assigned to a specific mission in advance. Consequently, in his delegation's view, a plate bearing the mission-related registration mark required by the French proposal could not be attached during the process of manufacture. On the other hand, if plates were attached subsequent to manufacture, it would be necessary to disassemble and reassemble the space object, an operation which would lead to delays, increased costs and reduced reliability. That would be a problem not only for States manufacturing their own equipment, but also for States and international organizations purchasing components or fully-assembled rockets or boosters from another country.

Finally, even if the technical difficulties were surmounted, the marking system proposed by France would not provide an absolutely certain means of identification. For example, even if the registration number were repeated on each square metre of a large rocket, there would still be no assurance that a piece surviving re-entry would carry the number. The number might be burned away during re-entry, and there were many small parts to which a registration plate could not be attached.

Though it had pointed out the technical problems raised by the French delegation's registration system proposal in its present form, his delegation was unable to propose any other technique which could achieve the objective of such a system in a practical way. In view of the importance of the objective, however, his delegation proposed that the technical aspects should be referred to the Scientific and Technical Sub-Committee. It was prepared to give additional study to the question, in the hope of finding some practical and effective method of achieving the desired result.

Mr. RÍHA (Czechoslovakia) congratulated all the scientists, technicians and astronauts, both in the Soviet Union and in the United States of America, who were responsible for the successful flights of Venus 5 and 6 and Apollo 8, 9 and 10. As General Svoboda, President of the Czechoslovak Republic, had recently pointed out to the representatives of ICSU's COSPAR, all men of goodwill desired that those achievements should be used not for military purposes, but exclusively for the peace, prosperity and happiness of nations.

So far as the definition of outer space was concerned, the task before the Sub-Committee was a complex one. Many elements would have to be taken into consideration, including the sovereignty and security of States, the various physical aspects, the interests of civil aviation, the peaceful exploration and use of outer space, and the fact that man-made vehicles moved through the air as well as in outer space. Those elements would have to be considered jointly and not in isolation, and his delegation believed that no single criterion could lead to a definition which would be both comprehensive and satisfactory for each State. In view of those considerations and the rapid development of technology, his delegation considered that new technical studies should be made, that objective data should be compiled to enable the Sub-Committee to accomplish its task successfully and, in particular, that the advice of ICAO should be sought.

With reference to the draft convention concerning the registration of objects launched into space for the exploration or use of outer space, the French delegation, which had submitted the draft, obviously started from the assumption that the number of States participating in research on outer space was increasing, as was the number of objects launched into outer space. Statistics showed that there were several hundreds of those objects and that their number was growing. It seemed reasonable to say, therefore, that more precise arrangements should be made.

The fundamental idea underlying the draft deserved the Sub-Committee's attention, but he felt that a number of practical problems relating to the implementation of the draft convention must first be clarified. An assessment should be made of the utility of the present system of reporting to the Secretary-General of the United Nations, in accordance with General Assembly resolution 1721B (XVI). The Secretariat might perhaps prepare a report on that system and on the results obtained so far.

As to space communications, his delegation still held the view that work on the formulation of the legal principles governing their creation and functioning should start as soon as possible. It was confident that, at its next meeting, the Working Group on Direct Broadcast Satellites would consider some aspects of the problem.

Mr. VRANKEN (Belgium) congratulated the Soviet Union and the United States of America on their recent achievements in outer space.

With reference to the French representative's statement on the definition of outer space, he pointed out that the Scientific and Technical Sub-Committee had found itself unable to provide any sound basis for a satisfactory definition of outer space or atmospheric space. It followed, therefore, that if a definition was necessary, the Legal Sub-Committee was the body which should work on it, and the definition would, therefore, be purely conventional. The Sub-Committee would, however, have to take the geographical, scientific and technical data into account.

In view of the rapid development of space operations, the question might be asked whether the moment was opportune for drawing up a definition of space, even from the legal point of view. His delegation had certain difficulties in accepting the first part of the French proposal, relating to the horizontal limit of atmospheric space. From the technical standpoint, that limit might give rise to problems in view of the smallness of the territory of many sovereign States.

His delegation believed that the idea of "purpose" put forward by the French representative was sound, but that any conclusion as to its intrinsic value would be difficult to reach in the absence of a draft text. Once the convention on liability had been drafted, however, it would be useful to begin considering the question of the registration of objects launched into space - a practical and increasingly necessary task, in view of the development of space operations - but that was a subject which, on account of its complexity, should first be referred to the Scientific and Technical Sub-Committee.

As to the use of outer space, his delegation preferred to reserve its position until something was known about the findings of the Working Group on Direct Broadcast Satellites, and about the results yielded by the work of the United States and Soviet astronauts in the course of 1969.

Mr. AMBROSINI (Italy) repeated his delegation's view that a solution to the problem of identifying space objects was urgently needed. Furthermore, the present system, under which registration with the United Nations was merely recommended, should be changed, and registration should become a legal obligation. His delegation had no settled opinion on the subject of identification marks but felt that the system adopted should be as simple as possible. The space object or its component parts must of course be marked in some way, so that victims would know where to send their claims for compensation.

Although at present unable to accept the French proposal in all its details, he did feel that the principle of that proposal was a valid one. It might be possible to have national registers in addition to an international one; the question needed to be examined.

Mr. COCCA (Argentina) congratulated the Soviet Union and the United States on their technical and scientific achievements, and the other States members of the Sub-Committee on their contributions to space technology and international co-operation.

The attempts to define outer space had shown how difficult it was to find such a definition. The Scientific and Technical Sub-Committee had concluded that it was impossible at present to establish scientific and technical criteria for an accurate definition of outer space. It was therefore incumbent upon the Legal Sub-Committee to tackle the problem of demarcation and try to formulate a legal definition. Something had already been done along those lines, for legal, not scientific, definitions of celestial bodies, space vehicles and meteorites had been worked out by the first symposium on progress in cosmic exploration and its consequences for humanity, held at Buenos Aires in December 1966.

The French delegation's suggestion that the Sub-Committee might begin by defining "space activity" under the 1967 Treaty should not be neglected. At the meeting on the definition of outer space held by the Scientific - Legal Liaison Committee of the International Academy of Astronautics and the International Institute of Space Law in October 1968, Professor Brun, the Scientific Vice-Chairman of the Liaison Committee, had pointed out that the definition of objectives in the French proposal was perfectly compatible with the definition used by ITU for "space stations" and "space service". He had mentioned two definitions. According to the first, which dated from 1959, space exempt from sovereignty was space where a satellite could no longer exist because it was attracted by the Moon. The second had been adopted in August 1968 by the fifty-third Conference of the International Law Association. Under that definition, outer space was the space beyond the lowest perigee reached by any satellite placed in orbit before 27 January 1967, the date on which the 1967 Treaty had been opened for signature by States, without prejudice to the possibility of including later any part of the space beyond that perigee. That definition, which had not been supported by the Argentine space law group, had a legal intention although it was based on a technical criterion. Its main fault was its vagueness, for the question arose: Who was to determine the lowest perigee of a satellite placed on orbit before the date mentioned, and to say

whether it was still an active satellite or a piece of space debris? The definition, moreover, had an element of legal uncertainty, since the criterion might change later on.

His delegation considered that the only legal justification for such a definition was that it would uphold the Chicago Convention on Civil Aviation[2/] and that it did not recognize the possibility of the violation of air space before the date of the Treaty.

At the meeting of the Liaison Committee he had already mentioned, another member had expressed his preference for the "von Karman line", which was designed to meet the difficulties raised by all the physical, thermodynamic, aerodynamic, exobiological, physiological and mechanical problems of air and space. That line put the division at 275,000 feet or approximately the 50 miles proposed in the draft code on the exploration and utilization of outer space prepared by the David Davies Memorial Institute of International Studies. Many scientists and jurists were in favour of that idea. The line was not hard and fast, because of the natural variations in atmospheric composition and the difference in the force of gravity at the Equator and at the poles, but it made an important contribution to the study of the matter.

At the same meeting, the question of human limitations in outer space had been studied, and several experts had concluded that the human factor was not very important in defining outer space or fixing its limits. It had also been argued that fixing limits was a legal question. But the jurists' difficulty lay in the fact that there was no scientific definition of outer space, celestial bodies and, in particular, space flights; and exchanges of views between scientists and jurists were essential. Another expert had thought that political rather than physical and technical considerations should be taken into account. Yet another scientific expert had affirmed that it was impossible to fix a limit to outer space, for there were many limits according to one's point of view.

There were three criteria for defining outer space: the physical criterion, which related to the environment; the technical criterion, which related to the vehicles;

2/ United Nations, Treaty Series, Vol.15, p. 295.

and a criterion which was neither physical nor technical and related to space activity. His delegation considered that it was the third criterion which should be used for demarcation. The definition suggested by the French delegation provided a sound basis for discussion, but he would like to add the words "for exclusively pacific aims".

It would also be useful to compile a list of activities for the exploration and use of outer space.

The registration of space vehicles could be made the subject of a protocol or other annex to the general convention, which should be drafted first.

The meeting rose at 1 p.m.

SUMMARY RECORD OF THE ONE HUNDRED AND THIRTEENTH MEETING

held on Thursday, 12 June 1969, at 10.50 a.m.

Chairman: Mr. WYZNER Poland

STUDY OF QUESTIONS RELATING TO (a) THE DEFINITION OF OUTER SPACE; (b) THE UTILIZATION OF OUTER SPACE AND CELESTIAL BODIES, INCLUDING THE VARIOUS IMPLICATIONS OF SPACE COMMUNICATIONS (agenda item 3) (A/AC.105/C.2/L.45 and L.46) (continued)

Mr. MILLER (Canada) congratulated the delegations of the United States and Soviet Union on their countries' recent activities in outer space, and he also congratulated the many other countries which had undertaken activities in connexion with the exploration and use of outer space.

With reference to the draft convention concerning the registration of objects launched into space for the exploration or use of outer space submitted by France (A/AC.105/C.2/L.45), he said that Canada was in favour of an international system for the registration of space objects, particularly as such a system would be of immense benefit in determining the State or international organization liable in the event of damage caused by space objects. Owing, however, to the technical nature of the methods of marking, recording and registering ownership of a space vehicle, it would be necessary, he thought, to obtain expert advice on the details of the draft convention. He therefore welcomed the suggestion made by the Belgian delegation at the 112th meeting that the Technical and Scientific Sub-Committee should be consulted.

In view of the analogy between the French proposal and the methods of registering aircraft and ships, he proposed that the Sub-Committee should endeavour to study more closely the registration procedures for aircraft and ships and that for that purpose it should turn to the United Nations specialized agencies such as ITU, ICAO and IMCO for information on how the national registration was co-ordinated internationally.

Wishing as it did to continue its strong support in principle for a generally agreed system of registering space objects, his delegation could accept the French proposal that registers should be kept at the national level, provided some adequate method of exchanging the information contained in those registers could be worked out, based on an effective system of international co-operation and co-ordination, particularly among States which engaged in space activities.

From the French draft convention it would appear that each Government would have some choice in deciding whether to register a given object as an air or space vehicle. Presumably that would depend on the purpose for which the object had been designed.

Some conflict might, however, be caused if another State disagreed with the launching State's decision. Although, therefore, a convention based on the French proposal might initially lessen the need to define "space object" and "space activity", those definitions might still prove useful in avoiding potential disagreements. In practice, what was meant by a space object, in the sense of its registration as such, would be largely determined by the precedents, in so far as a national decision to register an object as a space object was not disputed internationally. He would like to know, however, how the French delegation thought that disputes arising from the convention would be resolved.

There were other points on which he would also like some explanation. He wondered, for example, whether the expression "Any object" used in article 1 covered non-military objects only, or whether the convention was intended to apply to all objects launched into outer space. The registration procedure laid down in the Chicago Convention on International Civil Aviation, for example, did not apply to State aircraft. Similarly, the registration rules of international law of the sea were not applicable to warships and certain other categories of State vessels.

Although considering that, from the point of view of a public order in outer space, it would be desirable for all space objects, whatever their function or nature, to be registered, he thought that the application of such an obligation to military space objects might be considered incompatible with the existing principles and rules of international law applicable to warships and State aircraft.

Another point was whether article 1 applied to any satellite, regardless of its intended lifespan. The fact was that some satellites were sent into space with a view to their recovery after only one or a few orbits. The question was, whether they should be registered. The same applied to space objects in solar orbit or deep in outer space, and to objects designed for a more or less permanent landing on other celestial bodies.

He would also like some explanation of what was meant by "a joint service" in article 2. If it was joint or international registration that was intended, the text could be made slightly more explicit. The phrase "the other Contracting Parties exercising supervision over that service" also required clarification, especially in view of the long discussion at the Sub-Committee's seventh session on the extent of liability imputable to the relatively passive launching State. Again with reference to article 2, he would like the function of the object to be entered in the register.

He hoped, too, that the entry would include general information concerning the orbital characteristics of each space object (nodal period, inclination, apogee and perigee), as well as its international designation, as in the reports which most launching States, including Canda, voluntarily submitted to the Secretary-General of the United Nations.

He wondered why, in article 3, it was proposed that the letter C should be among the components of the registration number. He noted that the provisions of article 3 largely followed existing civil aviation practice.

Canada, he repeated, was in favour of an international system of space-object registration which would elaborate the term "State of registry" used in articles V and VIII of the 1967 Treaty. The institution of such a system was desirable and necessary, particularly in order to give effect to the provisions of article VI of that Treaty, which dealt with responsibility for activities carried on in outer space by States and international organizations. There should be a formal link between the launching State or international organization and the space object, to facilitate the exercise of control, sovereignty and proprietary rights over the space object while it was in the common domain of outer space. Both in shipping and in aviation, that essential link was provided by the notion of nationality or State of registry.

His delegation regretted that the specialized agencies and IAEA had not acted on the Legal Sub-Committee's recommendation that they should submit reports on the problems posed by the use of outer space in their fields of competence. The Sub-Committee's attention had been drawn by ITU to the way in which interference jeopardized the radio-communication facilities used for guiding rockets and transmitting data to and from space satellites, as well as to other problems concerning direct broadcast satellites: he hoped that the second World Administrative Radio Conference for Space Telecommunication, to be held in Geneva in 1971, would undertake a thorough review of ITU activities relating to the problems of interference, frequency assignment and in-orbit positioning. He expected that that Conference, and the Conference of Plenipotentiaries to be held the following year would remove some of the present inadequacies and generally strengthen ITU's capacity and authority to deal with instances of harmful interference.

In his opinion, the existing international organizations, and particularly ITU, were for the time being adequate for regulating space activities in their respective fields of jurisdiction, and they should therefore, as and when required, be given additional responsibility and authority to enable them to discharge their functions effectively.

The Scientific and Technical Sub-Committee had not changed its position since 1967, when it had stated that it was not currently possible to identify scientific and technical criteria which would permit a precise and lasting definition of outer space, and consequently the situation was still the same as it had been at the time of the Legal Sub-Committee's seventh session. That was to say that the observations and suggestions made by the Canadian delegation, both in the Scientific and Technical Sub-Committee and during the general debate in the Legal Sub-Committee, remained valid. Canada was still not convinced that there was yet a compelling need for a linear definition of outer space. Moreover, in view of the rapid progress in the manufacture of heat-resistant materials and the need not to compromise a new and still unforseen use of outer space, his delegation continued to believe that it would be premature for the Legal Sub-Committee to seek to do more than take the study of the matter a stage further.

Mr. BEREZOWSKI (Poland) remarked that the questions of the definition of outer space, of space activities and of the registration of space objects were conditioned both by technical factors and by the circumstances in which astronauts were sent into space. It should be emphasized in that connexion that, in accordance with article V of the 1967 Treaty, astronauts must be considered not only as members of a space crew, but also as envoys of the whole of mankind to celestial bodies. Problems also arose, however, which were more theoretical than practical, and which had to do with the legal status of outer space.

So far as demarcation was concerned, since it had not been possible to define scientific and technical criteria, the best solution would be to draw the frontier between atmospheric and outer space in a conventional way; it should be fixed at about 100 km an altitude beyond which aircraft could not go.

As to space activities, the problem must be strictly related to the text and interpretation of the 1967 Treaty. In particular, it was important to define what national or international law would be applicable to persons carrying out space activi on the moon. Obviously, international law would have priority. It should be remembered, however, that under the 1967 Treaty a State launching an object into outer space maintained its jurisdiction and control over that object and over all the crew the object; but that did not mean that that State could exercise any power whatsoever over the moon, for that would be incompatible with the principles of the Treaty. The Polish delegation intended to submit a document on the problem of the law applicable the moon's surface.

With regard to the draft agreement on liability for damage caused by objects launched into outer space, definite progress had been made, and although the problem of arbitration still remained, the other provisions had been accepted in principle by the delegations submitting draft texts. The Polish delegation hoped, therefore, that the Sub-Committee would be in a position at the current session to comply with General Assembly resolution B 2453 (XXXIII) of 20 December 1968 by drawing up a definitive text of the agreement.

Mr. AMBROSINI (Italy) said that his delegation supported, in principle, the draft convention submitted by France concerning the registration of objects launched into space.

So far as concerned the problem of demarcating the frontier between atmospheric and outer space, he stressed the utility of the technical information provided by the Argentine representative. Scientific experts were obviously not always in agreement as to where atmospheric space ended and outer space began. The problem had already arisen in 1959 at the meeting of the Ad Hoc Committee on the Peaceful Uses of Outer Space, and the Committee had left it in abeyance, being of the opinion that the matter was not urgent and that technical developments should be awaited. Since that time, there had been astounding technical progress; and, in that connexion, he congratulated the United States astronauts on their recent exploits. If therefore, at that late hour, the scientists did not succeed in reaching agreement, there was no point in the Legal Sub-Committee's continuing to consult them, for they would be unable to provide it with the basic elements for drawing up a legal definition.

It should not be forgotten that law was a practical science and that it would be impossible to carry out the 1967 Treaty without determining the altitude at which the sovereignty of States ceased. Clearly, therefore, the Sub-Committee must study the possibility of defining the demarcation line between atmospheric and outer space on a conventional basis. In his view, that line should be set between 120 and 150 km, which was higher than the one proposed before. Such figures would have the advantage of leaving a greater margin for errors of navigation, which might be particularly frequent in a region in which no tangible delimitation existed.

The draft convention concerning the registration of objects launched into space must also be given urgent consideration. The difficulties mentioned by several delegations were not insurmountable, and in any case the Legal Sub-Committee could study the problem and decide how it should be solved, while leaving the details to be settled later.

Similar problems had been solved in a satisfactory manner in the Convention on International Civil Aviation, signed at Chicago in 1944 (art.3), which established two separate sets of regulations for civil and military aircraft. There was no need to make that distinction for outer space, since it had been "demilitarized", so to speak, by the 1967 Treaty.

The interesting question what law should apply in space and on celestial bodies, in particular on the moon; had been raised by the Polish representative. International law should certainly have priority, but it was also obvious that national laws would also be applicable to a fairly large extent. Moreover, since article I of the 1967 Treaty stipulated that the exploration and use of outer space should be carried out for the benefit and in the interests of all countries and that celestial bodies belonged to all mankind, and since space and the celestial bodies might well be subjected to economic exploitation in the fairly near future, an international organization should be established to regulate such economic activities. Not only would traffic in space have to be controlled, but it would also be necessary to grant concessions for the installation of machinery, buildings, etc., on celestial bodies. It was to be hoped that the Sub-Committee would be able to arrive at an agreement on that point based on criteria which would be legal rather than political.

Mr. FREELAND (United Kingdom) recalled that at the sixth session of the Sub-Committee his delegation had taken part in the exchange of views on the question of the "definition" or "delimitation" of outer space, and that at the seventh session, after the conclusions of the Scientific and Technical Sub-Committee had become known, it had expressed the view that it would be premature for the Legal Sub-Committee to attempt to elaborate a definition of the lower limit of outer space. In view of the very rapid pace of development of space technology, the time had not seemed to be ripe for a definition; and, in the then current state of knowledge, there appeared to be difficulties in the various approaches to a definition which had been suggested. Nothing had happened since that time to lead his delegation to change its view. But although an attempt to elaborate a definition would be premature, the question merited further study, particularly of the scientific and technical criteria to be adopted.

The United Kingdom had already welcomed the proposal for a draft convention concerning the registration of objects launched into space, but it seemed clear that the Sub-Committee could not undertake a thorough discussion of that matter at the present session without unduly reducing the time available for consideration of the draft

convention on liability for damage caused by objects launched into outer space. There were certain points on which his delegation would welcome clarification when the opportunity occurred, some of which had been mentioned earlier by the delegation of Canada. One, of a more general character, concerned the relationship between the proposed system of registration and the arrangements currently in force pursuant to General Assembly resolution 1721 B (XVI) of 20 December 1961. Another point was that raised by the United States delegation, namely, the technical feasibility of the system of marking envisaged in article 3 of the draft convention. It might be useful to seek the views of the Scientific and Technical Sub-Committee on that latter point. As the Canadian delegation had suggested, assistance in matters covered by the draft convention might also be obtained from some of the specialized agencies.

Mr. PERSSON (Sweden) said that the "definition" of outer space was, rather, a problem of "demarcation", since it was simply a matter of determining the lower limit. In the absence of scientific and technical criteria for drawing an undisputed demarcation line between atmospheric and outer space, a rule of law must be sought instead. In his opinion, it was necessary to carry out further profound studies which might lead to the adoption of two or three demarcation lines serving different purposes. In any case, any rule or definition would have wide implications, not only from the point of view of public international law but also in many other respects, and particularly so far as concerned the application of the 1967 Treaty and the 1967 Agreement.

As to the utilization of outer space, the Legal Sub-Committee had at its seventh session adopted a proposal by the Swedish delegation that the Scientific and Technical Sub-Committee should be requested to consider the question of direct broadcast satellites, with a view to preparing a study on the technical problems involved. That recommendation had now been overtaken by events, for a Working Group on Direct Broadcast Satellites had been established to study the technical feasibility of communications by direct broadcasts and the current and foreseeable developments in that field, as well as the implications of such developments in the social, cultural, legal and other areas. As the Working Group was to hold its second session in the summer of 1969, the Legal Sub-Committee could not, he thought, engage in any useful discussion of the problems of direct broadcasting from satellites before the publication of the Working Group's report and until it had received instructions from the Committee. Moreover, as the Swedish representative had stated at a meeting of the Committee, broadcasting and television satellites could be used for both good and evil. Those aspects of the matter should be most carefully considered when the Sub-Committee went into the substance of the problem.

Mr. KRISHNAN (India) congratulated the United States of America and the USSR on the brilliant successes recently achieved in their programmes of space exploration. It was worth remembering that space history had begun barely eleven years before with the launching of the first sputnik; and the progress made since then provided food for thought. It might also be asked whether law had made the same rapid progress. Until only recently, many had considered space law to be but a futile pastime. Though the agreements concluded up to the present did not go as far as might be desired, they nonetheless constituted an unquestionable advance.

At the present session, the Sub-Committee should endeavour to complete the task assigned to it by the General Assembly in resolution 2345 (XXII) of 19 December 1967, i.e. to work out a final draft agreement on liability for damage caused by the launching of objects into outer space. In that respect, several representatives had alluded to the discussions that had taken place, on the initiative of the Indian delegation, in November 1968 at New York and in March 1969 at New Delhi. As a result of those discussions, which had revealed that the major space Powers were anxious that an agreement on liability should be concluded as soon as possible, the areas of disagreemen were now smaller. It was also encouraging to note that those Powers had stated before the Sub-Committee their readiness to open negotiations with a view to putting the agreement in final form at the present session. His delegation hoped that their consensus would be reflected in action. While reserving the right to state its views on the question of liability at a later date, it would distribute the text of the unoffi communiqué issued after the New Delhi discussions.

His delegation had already stated at previous sessions its views on the definition or delimitation of outer space. He would not go into the technical arguments, which in any case would at that stage do little more than permit the fixing of arbitrary limits; but he expressed regret that agreement had not yet been reached on the need to ban all activity of a military nature in outer space. The question of the delimitation of outer space was closely linked with that of its use. At the seventh session his delegation had spoken of the imperative need for an agreement expressly reserving outer space for exclusively peaceful uses.

His delegation found the French and Czechoslovak proposals (A/AC.105/C.2/L.45 and A/AC.105/C.2/L.46) extremely interesting, and would study them with due attention.

Mr. COCCA (Argentina) said that no aspect of liability for damage caused by objects launched into outer space should be overlooked. Therefore, after having insis at previous sessions on the need to take account of indirect and deferred damage, his

delegation considered that the particular aspect mentioned by ITU[3/] should also be taken into consideration; there was no reason to exclude from the field of application of a general convention on liability for damage caused by objects launched into outer space the harmful interference caused to radiocommunications during the launching and/or operatio of a space object.

Firstly, a station operated by a country other than that responsible for a space object under the terms of the 1967 Treaty or of the drafts under consideration might misuse radio frequencies in such a way as to cause harmful interference during the launching and operation of the vehicle, or even to cause the enterprise to fail.

Secondly, such emissions might originate from a country other than the launching country or from a vessel or aircraft operated by that other country or an object launched by it. Whether acting intentionally or otherwise, the author of that harmful act would incur no liability under either the 1967 Treaty or the ITU Radio Regulations.

In that respect, it was necessary to go further than the ICAO experts, who had deliberately excluded the study of liability for interference harmful to aerial navigation aids. Argentina had started to bring that type of liability under regulation following the third National Seminar on Aeronautical and Space Law, held at Buenos Aires in May 1969, particularly in respect of relations between the captain of an aircraft and the air traffic control authorities. Just as international regulations were needed for aerial navigation, so was there a need for a judicious distribution of radio frequencies at the international level if satellites were not to cause interference with emissions from other stations.

One of the tasks of the second World Administrative Radio Conference for Space Telecommunications, to be held in June 1971, would be to amend the Radio Regulations so as to adapt them to the technological advances made; but the Conference would not be required to study instances of stations failing scrupulously to observe the Radio Regulations - a problem which came under outer space law and was consequently a matter for the Legal Sub-Committee.

Then again, his delegation feared that all the progress made as a result of the conclusion of the 1967 Treaty and the 1968 Agreement might be nullified for want of effective regulations governing direct radio broadcasts by satellite. The advantages

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3/ See Report of the Committee on the Peaceful Uses of Outer Space, Official Documents of the General Assembly, Twenty-third session, agenda item 24, (document A/7285, annex III, appendix III).

of such broadcasting were, however, accompanied by serious risks - political (hostile propaganda, subversion), economic (de facto changes in trade treaties) and human (interference in private life, defamation, etc.). It was therefore important to determi which emissions should be prohibited, which rights should be protected at the internatio level, and who should participate in programming decisions.

In order to solve all those problems, it would be necessary to call upon public law institutions, to secure effective and comprehensive international collaboration, to ensu the proper protection of individuals, to improve measures for the maintenance of interna order and to recognize the right to adopt counter-measures.

A useful means of ensuring the co-ordination of efforts and more effective international co-operation would be to communicate all the statements made before the Legal Sub-Committee in connexion with space telecommunication to the United States Government, which had convened for November 1969 the second part of the Plenipotentiary Conference on Definitive Arrangements for the International Telecommunication Satellite Consortium (INTELSAT). Admittedly, the Washington agreements of 1964[4] were based on General Assembly resolution 1721 (XVI), but there was now a whole body of positive spa law - particularly the 1967 Treaty - which had come into being since the introduction of that provisional system and which it had consequently been impossible to take into consideration at the time. It would also be useful to communicate to the members of th Working Group on Direct Broadcast Satellites the Legal Sub-Committee's summary records a other documents relating to the subject in question.

Mr. TOKUHISA (Japan) said he did not intend to go into details on the questio of the registration of space objects, since his delegation had frequently advocated a system of international registration. He considered, however, that the Committee shoul study the entire problem of international registration at its future sessions.

The draft convention concerning the registration of objects launched into space presented by France provided for national registration as opposed to the system of international registration which his own delegation had in mind.

Alth ugh the draft convention specified that the contracting parties would have to register space objects, keep a register for recording the basic information registered make available any information sought concerning details of registration, it did not st what useful purpose registration might serve. He supposed that it would serve at leas

4/ United Nations, Treaty Series, vol.514, p.25.

help identify the launching authority - a factor essential to the rescue of astronauts and the recovery of space objects - and be useful when it came to claiming the compensation prescribed for the damage caused, in accordance with the relevant agreements.

The Sub-Committee should adopt a procedure which would enable the launching authority to be identified even more easily: the State in control of the space object registration service would transmit to the government depositary of the convention, or to the Secretary-General of the United Nations, the details of registration as defined in article 2 of the French proposal; the depositary government or the Secretary-General of the United Nations would then communicate that information to any contracting party which requested it.

As to the use of outer space, he hoped that the Sub-Committee would, at its current session, succeed in putting into final form an agreement on liability for damage caused by the launching of objects into outer space.

It would then have to be decided what the Sub-Committee should concern itself with thereafter. In 1959 it had had a list of items[5] which it had taken up successively in order of priority. The time had now come to study a list of new items which took account of developments in space activity, and to decide which of them deserved priority. To that end, the Sub-Committee should take thorough stock of all the problems arising from the use of outer space.

Mr. BOTA (Romania) congratulated the Soviet Union and the United States on their recent brilliant achievements in their outer space exploration programmes. He oped that the Legal Sub-Committee would succeed to some extent in closing the gap between he development of law and the development of technology.

The discussions which had already taken place on the definition of outer space had elped to place the problem in clearer perspective. Since the Scientific and Technical ub-Committee had stated that there were currently no sufficiently reliable criteria for reparing a definition that would serve as an instrument in international relations, he onsidered that, in defining outer space, no attempt should be made to find new physical nd technical elements, and that attention should be concentrated on the conditions and actors which had led to the definition of national sovereignty in the Paris Convention elating to the Regulation of Aerial Navigation (art.1) of 1919[6] in the Chicago Convention n International Civil Aviation (art.2) of 1944, and in the domestic law of the majority f States. It would then be clear that, in order to define outer space, economic,

/ See Official Records of the General Assembly, Fourteenth Session, Annexes, agenda item 25, document A/4141, Part III. sec. II.

/ League of Nations, Treaty Series, vol. XI. 1922, No. 297.

political and strategic elements would have to be taken into consideration. His countr considered that, whatever definition was drawn up, it should be based on strict respect for national sovereignty and should at the same time ensure the free access of all States to outer space for the purposes of exploration and peaceful uses. Since a definition of outer space was both useful and necessary, his delegation considered that the Sub-Committee should pursue its consideration of that question.

So far as the use of outer space was concerned, there was no doubt that the most spectacular progress of all had been made in space communications. Direct broadcasts from satellites would soon be possible. The international community could not remain indifferent to the advances made by that new means of communication, or to the purposes to which the new techniques might be put. Immediate steps should be taken, even before considering what aspects of the matter called for legal regulations, to determine the lines along which direct broadcasts from satellites should be used.

The international community had for a long time been striving to place mass communications at the service of progress, and had sought in particular to ban propagan Contemporary international law, too, specifically prohibited all activities which migh prove a threat to international peace and security. The 1967 Treaty prohibited the us of satellite communications to the detriment of peace, since it stipulated that exploration and use of outer space should be carried out in the interests of all countr in accordance with international law and in the interest of maintaining international peace and security and promoting international co-operation and understanding. The 19 Vienna Conference had shown what enormous advantages humanity, and in particular the developing countries, could derive from the use of space techniques to further social a cultural progress.

For all those reasons, his delegation considered that the General Assembly, after studying the report of the Working Group on Direct Broadcast Satellites, should adopt certain preliminary measures as soon as possible. In particular, it could usefully reaffirm some of the decisions it had already taken, with a view, for example, to banni all war propaganda and promoting the ideals of peace, mutual respect and understanding among peoples. An appeal might perhaps also appropriately be addressed to States to use direct broadcasts from satellites only for the purpose of promoting friendship and co-operation and the progress of humanity.

The Sub-Committee, for its part, might in the near future, on the instructions of the Committee, prepare a draft convention on the use of direct broadcasts from satelli without waiting until such broadcasts were actually being made.

Mr. BUTLER (Deputy Secretary-General, International Telecommunication Union) pointed out that ITU, in fulfilment of the purposes for which it had been established, was closely following, from the telecommunication standpoint, technical, operational and regulatory developments in the use of space. As it was impossible to consider space and terrestial telecommunications in isolation from each other, ITU was working in close association with other specialized agencies; the success of ICAO's air traffic co-ordination, for example, was due to the regulated use of the radio spectrum, which came under the ITU Regulations drawn up at its World Administrative Radio Conferences.

All the essential regulations prescribed by ITU were based on the provisions of the International Telecommunication Convention (Montreux, 1965)[7]. So far as use of space was concerned, the Convention conferred on ITU specific responsibilities so that, for example, international telecommunication services had to give absolute priority to all telecommunications concerning safety of life at sea, on land, in the air or in outer space (art. 39). In addition, because of the importance of harmful interference, there was a provision which imposed on member States the obligation to ensure that their stations did not cause harmful interference to the radio services on communications of other member States (art. 48). In practice, no distinction was made bteween space and terrestial services.

Under the Convention, there was also an obligation on member States to conform to the Radio Regulations, which were an integral part of the Convention. The Radio Regulations, were part of international law and, with regard to the use of space, there were certain specific provisions imposing obligations on member States. In particular, the regulations established the necessary co-ordinating and administrative procedures to be observed by member Governments, bilaterally, multilaterally or through the Union headquarters, especially in relation to the tasks assigned to the International Frequency Regulation Board (IFRB).

The provisions of the Radio Regulations relating to space services had been drawn up by the World Administrative Radio Conference in 1963. In view of the enormous technical developments since that time and the prospective growth in the use of space radiocommunication techniques, ITU had decided to convene a second World Administrative Radiocommunication Conference in 1971 to revise and supplement the existing administrative and technical provisions of the Radio Regulations and to adopt, as necessary, new provisions relating to radiocommunication services, in so far as they involved space radio techniques,

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[7] United Nations, Juridical Yearbook, 1965 (ST/LEG/SER.C/3) (Sales No. 67.V.3), p.173

including those for manned space vehicles and for the radio-astronomy service, in order to ensure the efficient use of the radio spectrum. Those new provisions would be conditional on the approval of each member State.

Should certain telecommunication questions not be within the competence of that Conference, the Union would have its Conference of Plenipotentiaries in 1972, which would have authority to amend its basic instrument and decide any outstanding matters. At the present stage, however, ITU considered that the agenda of the 1971 Conference would meet the basic requirements for the development of radiocommunications, on which space research and utilization was so heavily dependent. In that connexion, he hoped that ITU would be able to meet the wishes of the Canadian representative.

In addition, ITU, through its consultative committees, was drawing up the necessary technical operating standards and practices, which would subsequently provide a basis for new regulatory requirements. In particular, ITU, within its own field of competence, ha had to deal with problems of definition relating to space and to the difference between space and terrestial services.

Finally, ITU had participated in the study by the Working Group on Direct Broadcast Satellites, which had taken full account of ITU's work on that subject and had, in its report, given indications of available services, future possibilities and costs to enabl the United Nations to consider the broader aspects of the question, requesting that the results of the studies undertaken should be transmitted to ITU so that it could take the into consideration in its work on frequencies. The report had recognized that Members sh refer all the relevant telecommunication results of their further experiments and resear to the ITU, which was the competent international agency to establish the basic regulato framework for space telecommunications, including radio communications.

Mr. ABDEL-GHANI (Chief, Outer Space Affairs Division) announced that the Outer Space Affairs Division had issued an information document on what had been done on the subject of direct broadcasts from satellites. That document would be distributed to th members of the Sub-Committee, but in English only, since it was not an official document

The meeting rose at 1.15 p.m.

SUMMARY RECORD OF THE ONE HUNDRED AND FOURTEENTH MEETING

held on Friday, 13 June 1969, at 10.50 a.m.

Chairman: Mr. WYZNER Poland

STUDY OF QUESTIONS RELATIVE TO (a) THE DEFINITION OF OUTER SPACE; (b) THE UTILIZATION OF OUTER SPACE AND CELESTIAL BODIES, INCLUDING THE VARIOUS IMPLICATIONS OF SPACE COMMUNICATIONS (agenda item 3) (A/AC.105/C.2/L.45 and L.46) (continued)

Mr. PETRAN (Hungary), congratulated the Soviet Union and the United States of America on their recent spectacular successes in space exploration.

On the subject of the definition of outer space, he cited some well-known provisions of international law from which conclusions could be drawn that seemed to him particularly sound and well-founded.

As all were aware, the 1967 Treaty proclaimed the freedom of outer space. Furthermore, recognition of the full and complete sovereignty of every State over the air space situated above its territory constituted a generally recognized and applied norm of international law, being incorporated both in the municipal law of all States and in existing international agreements. Neither national legislation nor the international agreements, however, contained any definition either of the actual notion of air space, or the upper limit of that space. True, under a law of Peru of 15 November 1921, flights at an altitude of more than three kilometres had been authorized, but that provision had had to be modified as early as 1927 in another law which had merely proclaimed the sovereignty of the State over the air space situated above its territory. Because it was not known exactly what air space meant or what its upper limit was, many questions remained unanswered, especially since no guidance was provided by intergovernmental practice, either.

Nevertheless, the coexistence of the now established principles of the freedom of outer space and the sovereignty of every State over the air space above its territory made it necessary to have a definition of those two spaces. The Scientific and Technical Sub-Committee had expressed the view that since the different sciences each provided different criteria of definition, it was hardly of any use looking to them for help in defining outer space. A common notion seemed, however, to be emerging gradually, as was evinced by a host of

texts: General Assembly resolution 1721 B (XVI) of 20 December 1961; the definitions adopted in 1959 and 1963 by the International Telecommunication Union in the field of telecommunications; the Convention for the establishment of a European Organization for the Development and Construction of Space Vehicle Launchers (ELDO), which was adopted in 1962, and which gave a definitio of "space vehicle"; certain official declarations and, in particular, the draft conventions on liability submitted by Belgium (A/AC.105/C.2/L.7/Rev.3)[8/] and Hungary (A/AC.105/C.2/L.10/Rev.1)[8/]; and lastly, and above all, the provisions of article IV of the 1967 Treaty. Whereas the Treaty generally referred simply to "space", article IV, which reproduces the terms of General Assembly resolution 1884 (XVIII) of 17 October 1963, referred to objects placed "in orbit around the Earth".

From the texts just mentioned, and in particular article IV of the 1967 Treaty, it could be deduced that astronautics was concerned exclusively with flights of objects in orbit around the Earth, or beyond that orbit. Thus, it could be a question only of flights of objects the minimum speed of which was that for which the centrifugal force was equal to or greater than the Earth's pull. Carriers such as ballistic missiles, vehicles, shells, rockets or high-speed aircraft, whatever height they might attain, were thus excluded.

If the Sub-Committee did not succeed in finding scientific and objective criteria which would help it to define outer space, it would have to look around for clues of the kind he had mentioned in order to derive from them the constituent elements of an agreed definition. For the time being, at any rate, for the purposes of the convention on liability, the Legal Sub-Committee would have to achieve a definition of the "space object" itself. Thus, in a roundabout way, it would come nearer to a definition of outer space.

8/ See report of the Committee on the Peaceful Uses of Outer Space, Official Records of the General Assembly, Twenty-second session, Annexes, agenda item 32, document A/6804, annex III, appendix II.

With reference to the utilization of outer space, he observed that the advent of space science had meant the end of the geocentricism which had stamped the sciences until that time. Laws and processes were now being revealed which were valid for the whole universe, including space. It was only afterwards that laws would be distinguished which differed according to whether they applied to space or to the earth. The abandonment of geocentricism was called by some authors the phenomenon of universalization. Today, universalization characterized all the sciences, jurisprudence, linguistics and the social sciences themselves. Universalization had regenerated the sources of knowledge, for, thanks to the satellites, more knowledge had been accumulated in the space of a few years than had been acquired previously in centuries. There no longer seemed to be any limit to the growth of scientific information, the benefits of which, incidentally, were not merely quantitative, for universalization affected the rate of development of science and culture. It would undoubtedly be possible one day to describe the very structure of the reality in which man lived, to foresee events and even to modify the human environment.

As to the registration of objects launched into outer space, he considered that the system of registration which had been put in operation in accordance with General Assembly resolution 1721 B (XVI) had justified itself in practice, because the space Powers, which, for the time being, were precisely those which were sending objects into space, regularly submitted the required information on those objects. The drafts submitted on that subject, particularly that of France (A/AC.105/C.2/L.45), were interesting, but in his opinion, the main immediate requirement was to improve the existing system, perhaps along the lines suggested in some of the French proposals. That would ensure the continuity of the system founded by the United Nations and preserve its scientific and historic value.

The Sub-Committee's primary task, at its eighth session, was to prepare a final draft agreement on liability for damage caused by objects launched into outer space. He would revert to that question later, and hoped that the agreement in question would at last be drafted, in the spirit desired by the Chairman and the representative of the USSR.

Mr. BETTINI (Italy) congratulated the United States and the USSR on their achievements in space exploration.

The definition of outer space was a question of such importance that it should be accorded priority by the Sub-Committee, as soon as the drafting of the convention on liability had been completed. There were several reasons why that should be done.

In the first place, one of the basic objectives of the 1967 Treaty was to forestall any harmful activities in outer space and to prevent the armaments race from extending into space. It would not be feasible, however, really to apply the Treaty to that end until the demarcation line between airspace and outer space had been precisely defined.

In the second place, the General Assembly had, on at least two occasions, instructed the Sub-Committee to give due attention to the question. The Sub-Committee could not ignore those instructions. When the Assembly's next session was held, it should, at the very least, be in a position to show the Assembly that it was fully aware of the importance of the question and was giving it priority in its work.

The question of the registration of objects launched into outer space was closely linked with the definition of space and should also be included in the list of topics to which the Sub-Committee should next turn its attention.

As to the use of outer space, the Sub-Committee should put to itself now the question whether or not it was essential to prepare a draft convention. Whatever the answer, it should not forget that the 1967 Treaty mentioned various uses, such as exploration, economic utilization, scientific research, etc., and considered the use of outer space from various points of view that were also important. The Treaty provided that outer space should be used for the benefit and in the interests of all countries; that space should be explored and used without discrimination of any kind; that space should not be subject to national appropriation by claim of sovereignty or by any other means; that space should be used in accordance with international law, and particularly in accordance with the United Nations Charter; that space should be used exclusively for peaceful purposes; and that the astronauts of one State Party should render all possible assistance to the astronauts of other States Parties

to the Treaty. All those aspects should be studied in depth so that signatories to the Space Treaty would know exactly what obligations they had contracted. To that end, it might, perhaps, be advisable to strengthen the Outer Space Affairs Division.

At all events, his delegation considered that the Legal Sub-Committee should prepare a recommendation for the Committee listing the topics which it thought should be given priority in its work once the convention on liability had been prepared. It could use the list as a kind of work programme.

Mr. AMBROSINI (Italy) said he wished to supplement his delegation's statement on the use of outer space. It was necessary to consider, as a matter of urgency, the question of entrusting a body or organization with the control and supervision of such use. That was the only way in which the abuse of outer space by explorers could be prevented.

He recalled that, when the Interim Agreement on International Civil Aviation, signed at Chicago on 7 December 1944, was being prepared, the need had been felt for a provisional organization, the Provisional International Civil Aviation Organization (PICAO), which was to remain in being until the Agreement had received the number of ratifications necessary for its entry into force. Once the Agreement had entered into force, PICAO had been replaced by the International Civil Aviation Organization (ICAO).

That precedent was an important one, since it had met the need for introducing order, in that particular case in aerial navigation. The same need was now being felt in the case of outer space, with the steady increase in the number of space objects. Moreover, it was a question not only of introducing order, but also of prohibiting certain harmful activities such as the launching of copper needles, which the United States had engaged in on one occasion and which had encountered general censure, since the experiment could well have prevented other States from using outer space. It was also necessary to decide now who would be empowered to grant concessions or prohibit dangerous activities in outer space, since it was quite impossible to license all initiatives.

His delegation knew that it would be difficult, in present circumstances, to establish a new organization. It would, however, be feasible, as a temporary measure, to strengthen the Outer Space Affairs Division of the Secretariat, which already had certain functions to discharge, and to assign experts to it.

The Division could enunciate rules for movement in outer space, draw up regulations for space activities and decide whether or not a particular activity was lawful. Various General Assembly resolutions had already given ICSU's COSPAR the authority to state whether activities should be authorized or prohibited. The powers of the Outer Space Affairs Division could not, of course, be very extensive, and after studying topics of interest to the Sub-Committee, it would have to report to the General Assembly. It would, nevertheless, be the nucleus of an international organization and could well be a prelude to the establishment, which might later prove to be essential, of an autonomous organization, or even of a United Nations specialized agency, with power to settle any questions that might arise between States.

Mr. BOYD (United States of America) said his delegation still thought that the delimitation of outer space was not an urgent question, and that it would be premature to adopt any final conclusions.

Mr. EL REEDY (United Arab Republic) congratulated the two space Powers, the Soviet Union and the United States of America, on the brilliant successes they had achieved in the use of outer space during the past year.

The United Arab Republic had always been among the countries working to prepare a law of space, for it believed the law should be such as to ensure that that new domain was explored and used for exclusively peaceful purposes. That aim had been to some extent attained by the 1967 Treaty. What still had to be achieved, however, was an international agreement completely prohibiting military activities in outer space. That was the object towards which the United Arab Republic and many other countries represented in the Sub-Committee had been working in other bodies, and, in particular, in the Eighteen-Nation Committee on Disarmament. If outer space was to be explored and used in the interests of all countries, international co-operation was essential both in technical and scientific matters and in matters of space law. So far as was possible, therefore, space activities should not be kept secret. The countries which had renounced their sovereignty over the space above their airspace should at least be informed of what was happening in it. They should also receive guarantees as to their security and be assured that the experiments carried out in space would have no harmful effects on the conditions of life on earth.

In view of the limited number of meetings reserved for the consideration of the questions included under agenda item 3, it was virtually impossible for the Sub-Committee to discuss those matters in detail. Its aim at the current session was to prepare a draft convention on liability, and it was to be hoped that that would be achieved.

His delegation congratulated the French delegation on the draft convention it had submitted on the registration of objects launched into space. Such a convention would of course materially contribute to ensuring that space activities were not kept secret. It was also of considerable importance from the point of view of liability for damage. The draft convention should be included as an important item in the agenda of the Sub-Committee's next session. In the meantime, the Scientific and Technical Sub-Committee might well be asked to give its opinion on the technical aspects of the draft. He supported the Canadian representative's suggestion that the secretariat should submit to the Sub-Committee a document summarizing the international rules and practices concerning the national registration of aircraft and ships, for the existing registration systems would provide useful guidance.

The question of the definition, or rather of the delimitation, of outer space was of great importance, and was not, he thought, one that could be solved by technical methods alone. It was closely linked with the need to establish a rule clearly stipulating that outer space would be used for peaceful purposes only. Without a commitment of that kind, the Powers not engaged in space activity could not accept a delimitation which would jeopardize their security in zones next to their airspace. The Legal Sub-Committee should continue its study of the matter.

Turning to the question of direct broadcast satellites, he noted that his country had always asked for such satellites to be used in the interests of mankind and of friendly relations between nations on the basis of the Purposes and Principles of the United Nations Charter. At the Legal Sub-Committee's first session, his delegation had submitted a draft article on that subject for inclusion in the 1967 Treaty, but in its final version, the Treaty did not deal with the question. At its twenty-second session, the General Assembly had called for a study of the question of direct broadcasts from satellites

(resolution 2260 (XXII) of 3 November 1967) and, at its twenty-third session, it had requested the Committee to continue the study of the various implications of space telecommunications (resolution 2453B (XXIII) of 20 December 1968). In his delegation's view, it would be desirable, before taking any decision, to await the conclusions of the CCIR Study Group on Space Systems and Radioastronomy which was to meet at the end of the summer of 1969.

He supported the Japanese representative's suggestion that consideration should be given to the establishment of an order of priorities for future work. During the three weeks to be devoted by the Sub-Committee to the draft convention concerning liability, the Chairman should hold consultations with a view to drawing up a future programme of work and determining an order of priorities for the questions to be taken up by the Sub-Committee when it had completed its work on liability.

Mr. ANGUELOV (Bulgaria) congratulated the Soviet Union and the United States on the brilliant exploits of their aeronauts and the extraordinary precision of the work done by their scientists and technicians. He hoped that the countries engaged in outer-space activities would continue them for the benefit of all mankind.

With reference to the French delegation's proposal that an altitude criterion (fixed at 80 km) should be selected for delimiting outer space, he said he thought that the attempt to establish such a limit would be premature. The problem was not purely theoretical, since a delimitation of outer space would have the effect of determining the scope of national sovereignty on the one hand, and of the international regime of the freedom of outer space on the other. There was no means of foreseeing, however, all the possible effects of the exploration of outer space and of the extension of State sovereignty in that domain. Moreover, the Sub-Committee's principal task at the current session was to prepare a convention on liability, for which a dividing line between the atmosphere and outer space did not seem necessary. In fact, once it was decided that liability for damage in outer space would be based on risk (absolute liability) and that it would apply irrespective of the place of damage, the question of the delimitation of outer space obviously lost some of its importance.

With regard to the registration of space objects, he shared the view that additional studies would be needed, so that a system still better than that currently in force could in instituted.

Mr. HERNDL (Austria) expressed his conviction that at the current stage in the evolution of space law it was essential to determine the precise scope of the rules; in other words, sooner or later, the atmosphere and outer space would have to be delimited. That very important problem, however, which was both legal and technical required further thought. The time had not yet come for the Sub-Committee to begin a detailed discussion of the matters involved; furthermore, it should have additional information at its disposal, as well as a clear idea of the relevant debates in the Scientific and Technical Sub-Committee, which would elucidate the technical aspects of the problem.

The idea of fixing an altitude criterion for the delimitation of outer space should be studied with reference to the question of the effective exercise of sovereignty, which was linked to the progress of certain aviation techniques, and to the development of new categories of aircraft and weapons intended to protect the air space of a State. In fact, where the effective exercise of sovereignty was no longer possible, the question arose whether outer space had been reached or merely an intermediary layer which might, or might not, be subject to the sovereignty of the territorial State. Moreover, space objects, including particularly satellites, might be placed under the authority of an international organization for activities carried out in the interests of all mankind (reconnaissance, establishment of meteorological stations, and so on) and would have to fly over the earth at a fairly low altitude, below the proposed 80-km limit; a legal system should therefore be provided whereby such objects could fly around the earth without being charged with a violation of sovereignty, even if they flew at an altitude below 80 km.

His delegation did not think that there was any need at present to establish an order of priorities for the Sub-Committee's work. A difficult task still remained to be done: that of preparing a final text for the agreement on liability. It was therefore rather towards the end of the

session that the Sub-Committee would be able to deal with the order of priority of the subjects to be discussed in future. In any case, the future programme of work would have to include item 3 of the agenda of the current session.

His delegation was in favour of the adoption of a registration system for objects sent into outer space. The Scientific and Technical Sub-Committee should give its views on the technical problems and on the ideas contained in the French proposal.

Mr. VRANKEN (Belgium) said that his delegation planned to submit to the Sub-Committee a recommendation intended for the Committee and requesting the secretariat to prepare as complete an information paper as possible on the definition and delimitation of outer space. That document would have to be drawn up on the basis of the technical and scientific data assembled both by the Scientific and Technical Sub-Committee and by the Legal Sub-Committee and also of any information which the other international organizations, the specialized agencies and the international law institutions might supply. It would enable the Sub-Committee to consider the question in greater depth at its ninth session. The recommendation in no way prejudged either the outcome of the discussion or the question of the priority of the work to be undertaken.

Mr. BEREZOWSKI (Poland) said that he would like the following sentence to be included in the Sub-Committee's report; "In the elaboration of treaty rules governing the exploration and the use of outer space, it is necessary to prepare such rules relating specifically to man's activities on the surface of the moon and other celestial bodies."

ORGANIZATION OF WORK

Mr. PIRADOV (Union of Soviet Socialist Republics), supported by Mr. CARDENAS (Mexico) and Mr. EL REEDY (United Arab Republic), pointed out that the Working Group on Direct Broadcast Satellites which was to meet at the end of July 1969, would have to consider a number of legal problems falling within the Sub-Committee's purview. Some of the representatives in the Legal Sub-Committee would also have to attend the meetings of the Working Group. In view of the considerable cost of repeated travel and of other practical disadvantages, it did not seem reasonable to separate the sessions of the two bodies by an interval of four weeks.

His delegation was aware of the difficulties to which a change in the date for the Working Group's session might give rise, particularly as to premises and conference services, but the Working Group could probably meet in the building of some other organization, such as the International Labour Office. In those circumstances, the secretariat should consider the possibility of convening the Working Group immediately after the end of the Legal Sub-Committee's session.

Mr. VRANKEN (Belgium) said that when the conference calendar was drawn up, his delegation had requested the secretariat to arrange for consecutive sessions of the Legal Sub-Committee and the Working Group. The secretariat had stated that that would be impossible; that was regrettable, and it was important that such a situation should not recur.

Mr. O'DONOVAN (Australia), Mr. BOYD (United States of America), Mr. HERNDL (Austria) and Mr. FREELAND (United Kingdom) pointed out that all preparations, both for the appointment of representatives and for the preparation of documents, had been made on the assumption that the Working Group would meet on 28 July. To advance that date would therefore cause considerable difficulties. At any rate, delegations could not commit themselves before obtaining instructions from their governments.

Mr. MILLER (Canada) said he shared that view. During the negotiations on the Working Group's terms of reference, his delegation had repeatedly expressed the desire that the two sessions of the Working Group should precede those of the Scientific and Technical Sub-Committee and of the Legal Sub-Committee, in order that those two bodies might have the Working Group's report before considering the problems in substance. His delegation regretted that that suggestion had not been adopted.

Mr. COCCA (Argentina) said that the question of direct broadcast satellites presented legal aspects which came indubitably within the Sub-Committee's competence. To the extent to which the interests of all delegations could be reconciled, his delegation supported the USSR representative's proposal, which would enable the members of the Sub-Committee to attend the meetings of the Working Group.

Mr. ABDEL-GHANI (Chief, Outer Space Affairs Division) said that it would probably be very difficult to advance the date for the Working Group's session.

He understood the inconvenience caused by the calendar, but it should be remembered that delegations had long ago been informed that it would be impossible to convene the Working Group at Geneva immediately after the session of the Sub-Committee. The members of the Committee had, however, insisted that the Working Group's session should be held at Geneva, and the date of 28 July had not been adopted through any lack of foresight or through faulty organization on the part of the secretariat.

The CHAIRMAN proposed that the Chief of the Outer Space Affairs Division should be requested to ascertain from the secretariat whether there was any possibility of advancing the date for the Working Group's session. In the meantime, delegations might consult their governments to see whether such a change did not involve insurmountable difficulties.

It was so decided.

The meeting rose at 1.10 p.m.

SUMMARY RECORD OF THE ONE HUNDRED AND FIFTEENTH MEETING

held on Friday, 13 June 1969, at 3.30 p.m.

Chairman: Mr. WYZNER Poland

STUDY OF QUESTIONS RELATIVE TO (a) THE DEFINITION OF OUTER SPACE; (b) THE UTILIZATION OF OUTER SPACE AND CELESTIAL BODIES: INCLUDING THE VARIOUS IMPLICATIONS OF SPACE COMMUNICATIONS (agenda item 3) (A/AC.105/C.2/L.45 and L.46 and A/AC.105/C.2/L.54 and L.55) (continued)

Mr. LEMAITRE (France) said that the draft convention concerning the registration of objects launched into space for the exploration or use of outer space (A/AC.105/C.2/L.45) which his delegation had submitted to the Sub-Committee constituted a formal proposal. His delegation was prepared to collaborate with other delegations which might wish to propose amendments to the draft.

It had been suggested during the discussion of the agenda item that there was no need at present for a convention on registration since no problems had arisen so far in that connexion. Surely, however, it was logical to anticipate problems and to seek solutions to them in advance. Hitherto, it had not always been possible to recover objects launched into space but the question of registration was important because research work was being currently directed to the development of objects which could be used several times. In submitting its proposal, his delegation was not seeking to render redundant the procedure established by the United Nations for announcing launchings of space objects. That procedure was not, however, mandatory and, in view of the rapid progress being made in the use of outer space, might soon prove valueless unless revised. The purpose of the French draft convention was to ensure that every object launched into space was given a registration number which would serve all possible purposes as did the registration number of an aircraft.

In connexion with article 1 of the draft, members of the Sub-Committee would recall that, in the discussion of the 1967 Treaty, France had objected to the expression "use of outer space" because the word "use" could cover both exploration and exploitation. Since, however, a certain terminology had come to be adopted in space matters, the French delegation had, in a spirit of compromise, included the word "use" in the first sentence of article 1. By using the phrase "Any object launched into space for the exploration or use of outer space", his delegation wished to make it clear that both the object which served directly for the exploration or use of outer space and the means used for launching that object into space should be registered. While certain States would wish to register space objects directly, a number of States might

in some cases wish jointly to register such objects. That was the reason for the use of the words "one or more" in the same sentence. The last sentence of article 1 was based on an annex to the Chicago Convention and was intended to obviate multiple registrations.

The first paragraph of article 2 was based on the principle that, in the early stages at least, all States could not be expected to have the same laws and regulations. Some States, for instance, might consider that the registration should include information concerning the purpose for which the object was intended, while others might regard such information as unnecessary. As for the information to be included compulsorily in the registration, the first three items called for little comment. Item (d), however, referred to the external specifications of the object, because it was considered that the registration should be as comprehensive as possible. If, for example, the ICAO procedure were adopted, only a very small number of objects would be registered. Item (e) served to promote international order and was consistent with the provisions of the 1967 Treaty which stated that an object was subject to the laws of the State launching it. The square brackets had been inserted in the last sentence of article 2 in order to avoid giving the impression that the French delegation wished to impose its ideas on others.

The letter C, whose use was prescribed in sub-paragraph (a) of article 3, had been chosen as representing the word "cosmos" which existed in all languages. It was essential that the registration mark should be clearly distinguishable from marks reserved for aircraft. With regard to sub-paragraph (b), call signs could at present be assigned only to single States, not to a group of States. It might become necessary, however, in the case of joint enterprises, for ITU to allocate call signs to groups of States. That could be done under the provisions of sub-paragraph (b). The second paragraph of article 3 would allow States latitude to use the method of display which they considered technically most suitable.

It was because it was aware of the technical difficulties involved that his delegation had introduced article 4 into its draft convention. It was felt that the provisions of articles 2 and 3 might eventually have to be modified and that any modifications should be worked out by small conferences held at regular intervals and attended by scientists and technologists, rather than by large diplomatic conferences. The second paragraph of the article provided that common rules adopted by a certain majority would be binding on all Contracting Parties.

Certain words in article 5 had been placed between square brackets because procedure with respect to treaty amendment differed from country to country and the French Government did not wish to impose its procedure on other Governments.

In conclusion, he expressed the hope that the Sub-Committee would deal with the draft convention submitted by his delegation as a matter of priority.

Mr. COCCA (Argentina) said that he recognized the need for a convention on the registration of objects launched into space for the exploration or use of outer space. The registration procedure laid down in General Assembly resolution 1721 B (XVI) of 20 December 1961 was no longer adequate. Four years previously fragments of space vehicles had fallen on to two places in Argentina. Fortunately, they had fallen in unpopulated areas and had therefore caused no damage. There had been no identification marks on the fragments which meant that if they had caused damage Argentina would have had difficulty in claiming compensation. He proposed, therefore, that the question of the registration of objects launched into space for the exploration and use of outer space should be placed on the agenda for the Sub-Committee's next session.

The proposal submitted by his delegation on the question of the legal status of substances, resources and products coming from the moon (A/AC.105/C.2/L.54) had been inspired by the fact that the General Assembly had instructed the Sub-Committee to elaborate and progressively develop the law of space. Despite the provisions of article 1 of the 1967 Treaty it was desirable that a detailed study of the question be made, because it was essential that the Sub-Committee should make progress similar to that made by the Ad Hoc Committee to Study the Peaceful Uses of the Sea-Bed and the Ocean Floor beyond the Limits of National Jurisdiction. Although some time would elapse before man was able to utilize the resources of the sea-bed and ocean floor, the General Assembly had nevertheless already adopted resolution 2467 (XXIII) of 21 December 1968. In contrast, while man was expected to land on the moon in July 1969, the Legal Sub-Committee of the Committee on the Peaceful Uses of Outer Space had not even begun to consider the legal status of substances, resources and products coming from the moon.

Mr. AMBROSINI (Italy), supporting the Argentine proposal, said that the Sub-Committee had a duty to study the question it raised, which was linked with the question he had raised concerning the economic advantages to be derived from the exploration of outer space and celestial bodies, to which he had so far not received an answer.

Mr. ABDEL-GHANI (Chief, Outer Space Affairs Division) said that the question of the registration of objects launched into outer space had first been raised in the United Nations in 1959. The Ad Hoc Committee on the Peaceful Uses of Outer Space had stated in its report[9/] that the expected progressive increase in the number of space vehicles indicated the necessity of providing suitable means for identifying individual space vehicles, and that such identification could be obtained by agreement on an allocation of call signs to be emitted at stipulated regular intervals, at least until identification by other means had been established.

Among the reasons given in the report for the desirability of a system of identification and registration were that in many cases it would be desirable for several countries to co-operate in tracking a space vehicle; that such a system might afford a convenient means for the notification of launchings to other States, thus enabling them to make appropriate distinctions between space vehicles and other objects and take measures to protect their interests if necessary; that it could be useful in preventing physical interference between space vehicles and conventional aircraft; and that it could also be useful where equipment was recovered from space vehicles or where a question of liability arose in connexion with possible damage caused by re-entry.

Since 1962, States launching objects into outer space had, under General Assembly resolution 1721 B (XVI), been submitting information on them to the Secretary-General. That information included the name or other designation of satellites or space objects, as well as their orbital parameters. An official registry had been established in the Outer Space Affairs Division, which circulated copies of the information it received, retaining the original communication. Australia, France, Italy, the Union of Soviet Socialist Republics and the United States of America had so far submitted notifications of launchings, the number of documents in the series having reached 206 by 6 June 1969. The form and content of the information submitted by launching States varied. The United States provided details of rockets launched as well as information on decaying satellites. Objects were designated in accordance with the COSPAR international designation. Information was provided on the date of launching, the launch vehicle, the apogee and perigee and other technical details, including information on satellite category. The USSR submitted information on its launchings in chronological order, using code names for payloads. It included information on the date of launching and the purpose (communications, meteorology, etc.). The French Government submitted

9/ See Official Record of the General Assembly, Fourteenth Session, Annexes, agenda item 25, document A/4141, Part III, para. 17.

information on its launchings, using the COSPAR designation as well as code names. The Italian Government used the code names San Marco I and San Marco II and the Australian Government used the code name WRESAT.

Other organizations were also involved with registration. Three world data centres had been established under the International Geophysical Year programme, one in the United States, one in the USSR and one in the United Kingdom, to collect data from observational programmes and make it available to interested scientists and organizations. The Goddard Space Flight Centre in the United States issued a periodical report containing data compiled by the Smithsonian Astro-Physical Observatory. The Royal Aircraft Establishment in the United Kingdom collected information on launchings by all countries. The Division's file on the subject was available to members of the Sub-Committee for reference.

Mr. RIHA (Czechoslovakia) thanked the Chief of the Outer Space Affairs Division for the information provided in response to his delegation's request. In his view, that information would be useful to the Sub-Committee in determining what future action should be taken and also to the Scientific and Technical Sub-Committee. He therefore proposed that the full text of the Director's statement should be circulated as a document of the Sub-Committee.

His delegation viewed with sympathy the idea of establishing an international space agency as proposed by the Italian delegation at the 114th meeting. He suggested that that proposal should be mentioned in the Sub-Committee's report.

The proposal of the Czechoslovak representative concerning the statement made by the Chief of the Outer Space Affairs Division was adopted.

Replying to a question by the CHAIRMAN, Mr. BOYD (United States of America) said that whether he would wish his suggestion to refer the question of registration to the Scientific and Technical Sub-Committee to be regarded as a formal proposal would depend on the future development of the legal Sub-Committee's work.

Mr. AMBROSINI (Italy) reiterated the suggestion made by his delegation at the seventh session that at least one representative of the Scientific and Technical Sub-Committee should attend the Legal Sub-Committee's meetings and vice versa. There were many interrelated questions being dealt with by the two Sub-Committees which, although organs of the same parent body, were each unaware of what the other was doing. He appealed for urgent consideration of that suggestion.

Mr. VRANKEN (Belgium) said that his delegation would not oppose the proposal to refer the question of registration to the Scientific and Technical Sub-Committee. It was concerned, however, to ensure that the Legal Sub-Committee was not prevented from dealing with the question at its next session by the fact that it was still under consideration by the other Sub-Committee. The Legal Sub-Committee should be able to continue its work on the subject and invite a representative of the Scientific and Technical Sub-Committee to participate in that work in accordance with the Italian representative's suggestion.

Mr. O'DONOVAN (Australia) said that joint meetings of the two Sub-Committees were undesirable and impracticable. The Committee was fully informed at its sessions of the work being done by both its Sub-Committees, and co-ordination was thus ensured at that level. Moreover, there was nothing to prevent any delegation from including among its members experts in a field other than that with which a particular Sub-Committee was primarily concerned; scientific and technical experts could therefore take part in the Legal Sub-Committee's deliberations.

Mr. EL REEDY (United Arab Republic) said that he agreed with the Australian representative. He associated his delegation with the views which had been expressed concerning the desirability of establishing an international space agency and recalled the consistent support given to that idea by the non-aligned countries, which had first proposed it at the Conference held in Belgrade in 1961.

Mr. AMBROSINI (Italy) pointed out that he did not advocate joint sessions of the Sub-Committees, but merely a liaison between them through the attendance of one or more of their members at each other's sessions. He had derived great benefit from his contact with aeronautical scientists when drawing up juridical standards in the field of aviation.

He asked the Chief of the Outer Space Affairs Division to consider his proposal that experts should be appointed to the Division as a first step towards the creation of an international space agency.

Mr. MILLER (Canada) said that the Committee was the appropriate forum for discussing jointly all the various aspects of that subject. The Sub-Committee might express in its report the view that the parent Committee's sessions should be extended to permit thorough examination of all aspects of the subject with the participation of both jurists and scientists.

He was not convinced of the need for an international space agency and thought it preferable that the existing specialized agencies should extend the scope of their activities and be given more authority in the field of outer space. He nevertheless had no objection to a study of the desirability of establishing an international space agency. That question might be considered by the Sub-Committee at its ninth session.

He agreed with the Belgian representative that the proposed study of the technical aspects of registration should not be allowed to delay consideration of the French draft convention concerning registration. It would nevertheless be useful to have the advice of the Scientific and Technical Sub-Committee, which was likely to meet before the ninth session of the Legal Sub-Committee. He proposed that the Sub-Committee therefore adopt a recommendation submitted by his delegation (A/AC.105/C.2/L.55).

Mr. AMBROSINI (Italy) supported that recommendation, but suggested that the words "national and international" should be inserted before the word "registration".

Mr. BOYD (United States of America) said that he, too, favoured seeking the advice of the Scientific and Technical Sub-Committee on the technical aspects of registration at an appropriate time, but he was not convinced that that Sub-Committee's next session would be the appropriate time. If the Legal Sub-Committee took up the question of registration at its ninth session, it would have sufficient material in the comments on the French proposal to keep it fully occupied and it might be premature to refer the matter to the Scientific and Technical Sub-Committee. He therefore suggested that the phrase "at its next session" should be deleted from the draft recommendation proposed by the Canadian representative and that the Committee on the Peaceful Uses of Outer Space be left to decide, in the light of the Legal Sub-Committee's report on the subject, when the matter should be referred to the Scientific and Technical Sub-Committee.

Mr. MILLER (Canada) agreed that the phrase mentioned by the United States representative should be deleted from the proposed recommendation, on the understanding that each delegation would be free to express its views on the priority to be accorded to the subject. His own delegation felt that it was a matter of some urgency.

Mr. VRANKEN (Belgium) and Mr. LEMAITRE (France) associated themselves with the remarks of the Canadian representative.

ORGANIZATION OF WORK

Mr. TOKUHISA (Japan) suggested that the secretariat should be asked to prepare a list of topics suitable for inclusion in the Sub-Committee's future work programme. That list could be considered at an appropriate time during the present session and priorities could be established. The secretariat could base the list on all the suggestions made by delegations so far, consulting relevant material such as the report of the Ad Hoc Committee on the Peaceful Uses of Outer Space.

Mr. ŘÍHA (Czechoslovakia) supported that suggestion.

Mr. EL REEDY (United Arab Republic), also supporting that suggestion, recalled his delegation's proposal that the Chairman should hold informal consultations with delegations on the question of priorities. He said that the Sub-Committee could take up the subject towards the end of its present session.

Mr. HERNDL (Austria) said that, although the proposed list of topics would be most welcome, its preparation would impose a considerable burden on the secretariat. If the list could not be completed before the end of the session, it could be circulated subsequently and priorities could be decided upon by the Sub-Committee at its next session or by the parent Committee.

The CHAIRMAN suggested that it would not be appropriate for the secretariat to propose topics for inclusion in the Sub-Committee's future work programme, or an order of priorities for those topics. The secretariat could, however, compile a list of the topics already suggested by delegations at the present and previous sessions of the Sub-Committee. He understood that that could be done before the end of the current session provided that the delegations themselves informed the secretariat of the suggestions they had made, referring to the relevant records and documents. The list would be circulated and he would ascertain the views of delegations on the order of priorities to be accorded to the topics. The Sub-Committee could then take up the question of the work programme and priorities towards the end of the present session. The list of topics would not include new proposals, although delegations would of course be free to present their views on the future work programme. He asked whether that procedure should be adopted.

It was so decided.

The CHAIRMAN said that the fairly full exchange of views which had taken place on agenda item 3 would provide a useful basis for the Sub-Committee's deliberations at the beginning of its next session. He suggested that the Sub-Committ

should take up agenda item 2 at its next meeting and revert to item 3 at the end of the session to take any decisions it considered appropriate, after considering the proposals made by the delegations of Argentina, Belgium, Canada, Czechoslovakia and Poland.

It was so decided.

Mr. PERSSON (Sweden) said that, since the document which his country was to submit to the Working Group on Direct Broadcast Satellites would take several more weeks to complete, it would be difficult for his Government to agree to the USSR delegation's suggestion that the Working Group's second session should follow immediately after the present session of the Sub-Committee. The representatives of Canada and the United States had already indicated that the documents which their national agencies were preparing for the Working Group's session would also not be ready by early July. He understood, moreover, that the Chairman of the Working Group was opposed to any change in the Group's time-table, which had been arranged after prolonged discussions. He therefore asked the USSR delegation not to press its suggestion.

The meeting rose at 5.55 p.m.