

AD HOC COMMITTEE ON THE PEACEFUL
USES OF OUTER SPACE

REPORT OF THE LEGAL COMMITTEE

A. INTRODUCTION

1. Mandate of the Committee under paragraph 1 (d)

Paragraph 1 (d) of the General Assembly resolution of 13 December 1958, adopted at its 792nd plenary meeting, reads as follows:

"The General Assembly... 1. Establishes an Ad Hoc Committee on the Peaceful Uses of Outer Space... and requests it to report to the General Assembly at its fourteenth session on the following... (d) The nature of legal problems which may arise in the carrying out of programmes to explore outer space..." (A/RES/1348 (XIII)).

The scope of the mandate thus given the Committee was the subject of discussion. It was recognized that the terms of reference of the Committee referred exclusively to the peaceful uses of outer space. One view expressed was that the task of the Committee related only to the identification and listing of legal problems which might arise in the carrying out of programmes to explore outer space and that the Committee was not called upon to formulate either general or particular solutions of those problems. Another view was that the Committee in identifying and listing the problems, should give some indication of the significance and implications of each problem and the priority which might be given to its solution. Others stressed the importance of giving attention to certain relevant general principles, such as those contained in the preamble and operative paragraph 1 (b) of resolution 1348 (XIII). It was also pointed out that, while paragraph 1 (d) of resolution 1348 (XIII) referred only to problems which might arise in the exploration of outer space, it was not always possible in relation to certain activities to differentiate between exploration and exploitation

of outer space and that both the exploration and the exploitation of outer space were expressly mentioned in the preamble to the resolution.

The Committee recognized that it would be impossible at this stage to identify and define, exhaustively, all the juridical problems which might arise in the exploration of outer space. Recognizing the multiplicity of these juridical problems, the Committee considered that it could most usefully fulfil its mandate from the General Assembly, in view of the complex character of these problems, by (1) selecting and defining problems that have arisen, or are likely to arise in the near future, in the carrying out of space programmes; (2) dividing the problems into two groups, those which may be amenable to early treatment and those which do not yet appear to be ripe for solution; and (3) indicating, without definite recommendation, various means by which answers to such problems might be pursued. The identification of legal problems entails, of necessity, some consideration of possible approaches to their solution, particularly with a view to presenting the best informed comment that can be made on the matter of priorities.

2. General Observations

The Committee considered the relevance to space activities of the provisions of the United Nations Charter and of the Statute of the International Court of Justice, which synthesized the idea of co-operation between men and the joint achievement of great projects for the benefit of all mankind; it observed that as a matter of principle those instruments were not limited in their operation to the confines of the earth. It considered as a worthy standard for international co-operation and programmes in the peaceful uses of outer space which could appropriately be undertaken under United Nations auspices, to the benefit of States irrespective of the state of their economic or scientific development, the principles set forth in the operative paragraph 1 (b) and the preamble of resolution 1348 (XIII), in which the General Assembly called attention to Article 2, paragraph 1 of the Charter which states that the Organization is based on the principle of the sovereign equality of all its Members, recognized the common interest of mankind in outer space and the common aim that it should be used for peaceful purposes only, and expressed the desire of promoting energetically the fullest exploration and exploitation of outer space for the benefit of mankind.

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It was unanimously recognized that the principles and procedures developed in the past to govern the use of such areas as the air space and the sea deserved attentive study for possibly fruitful analogies that might be adaptable to the treatment of legal problems arising out of the exploration and use of outer space. On the other hand, it was acknowledged that outer space activities were distinguished by many specific factual conditions, not all of which were now known, that would render many of its legal problems unique.

The Committee agreed that some of the legal problems of outer space activities were more urgent and more nearly ripe for positive international agreement than others. It was felt that the progress of activities in outer space and of advances in science and technology would continually pose new problems relevant to the international legal order and modify both the character and the relative importance of existing problems. For example, future arrangements among governments or private groups of scientists for co-operation in space research or dissemination of space data may entail legal problems ranging from administrative or procedural arrangements to regulation or control. The Committee noted the indispensable usefulness of close and continuous co-operation between jurists and scientists to take these and other developments into account.

The Committee considered that a comprehensive code was not practicable or desirable at the present stage of knowledge and development. Despite the progress already made, it was emphasized that relatively little is so far known about the actual and prospective uses of outer space in all their possible varieties of technical significance, political context, and economic utility. It was pointed out that the rule of law is neither dependent upon, nor assured by, comprehensive codification and that premature codification might prejudice subsequent efforts to develop the law based on a more complete understanding of the practical problems involved. Although an attempt at comprehensive codification of space law was thought to be premature, the Committee also recognized the need both to take timely, constructive action and to make the law of space responsive to the facts of space.

For these reasons it was agreed that the rough grouping of legal problems according to the priority hereafter suggested should itself be kept under regular review by whatever means the General Assembly should deem fitting.

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B. LEGAL PROBLEMS SUSCEPTIBLE OF PRIORITY TREATMENT

1. Question of Freedom of Outer Space for Exploration and Use

During the International Geophysical Year 1957-8 and subsequently, countries throughout the world proceeded on the premise of the permissibility of the launching and flight of the space vehicles which were launched, regardless of what territory they passed "over" during the course of their flight through outer space. The Committee, bearing in mind that its terms of reference refer exclusively to the peaceful uses of outer space, believes that, with this practice, there may have been initiated the recognition or establishment of a generally accepted rule to the effect that, in principle, outer space is, on conditions of equality, freely available for exploration and use by all in accordance with existing or future international law or agreements.

2. Liability for Injury or Damage Caused by Space Vehicles

Since injury or damage might result from the launching, flight, and return to earth of various kinds of space vehicles or parts thereof, a number of problems exist with respect to defining and delimiting liability of the launching State and other States associated with it in the space activity causing injury or damage. First of all there is the question of the type of interest protected: that is, the kind of injury for which recovery may be had. Second, there is the question of the type of conduct giving rise to liability: should liability be without regard to fault for some or all activities, or should it be based upon fault? Third, should a different principle govern, depending on whether the place of injury is on the surface of the earth, in the air space or in outer space? Fourth, should liability of the launching State be unlimited in amount? Finally, where more than one State participates in a particular activity, is the liability joint or several?

What machinery should be utilized for determining liability and ensuring the payment of compensation if due? The Committee considered that early consideration should be given to agreement on submission to the compulsory jurisdiction of the International Court of Justice in disputes between States as to the liability of States for injury or damage caused by space vehicles.

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When it considered the foregoing questions the Committee noted that, in so far as concerns liability for surface damage caused by aircraft, there was formulated at Rome in 1952, under the aegis of ICAO, the Convention on Damage Caused by Foreign Aircraft to Third Parties on the Surface. In the opinion of the Committee that Convention and ICAO experience in relation thereto could be taken into account, *inter alia*, in any study that might be carried out in the future concerning liability for injury or damage caused by space vehicles. It was pointed out, however, that no international standards regarding safety and precautionary measures governing the launching and control of space vehicles had yet been formulated, and this fact also could be taken into account in studying analogies based on existing conventions.

3. Allocation of Radio Frequencies

It was recognized that there are stringent technical limits on the availability of radio frequencies for communications. The development of space vehicles will pose new and increasing demands on the radio spectrum. It was emphasized that rational allocation of frequencies for communications with and among space vehicles would be imperative. In this way, what might otherwise come to constitute paralysing interference among radio transmissions could be avoided.

Attention was drawn to the fact that there is already in existence and operation an international organization suited to the consideration of problems of radio frequency allocation for outer space uses, namely, the International Telecommunication Union. A technical committee of this organization has already issued a Recommendation and a Report which bear the following titles: "Selection of Frequencies Used in Telecommunication with and Between Artificial Earth Satellites and other Space Vehicles" and "Factors Affecting the Selection of Frequencies for Telecommunication with and Between Space Vehicles". The findings contained in these two documents will be presented to the Administrative Radio Conference of the ITU which will open in Geneva on 17 August 1959.

Attention should also be given to the desirability of terminating transmissions from space vehicles once these transmissions have outlived their usefulness. Such a measure would help conserve and make optimum use of the frequencies which are assigned for outer space communications. In considering

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this problem, it would be necessary to balance this factor against the interest in conserving a means for continuous identification of space vehicles.

4. Avoidance of Interference between Space Vehicles and Aircraft

As the launchings of space vehicles become more numerous and wide-spread throughout the world, practical problems will clearly arise in regard to the prevention of physical interference between space vehicles, particularly rockets, and conventional aircraft. The latter are already employed in great numbers across the earth and in many areas air traffic is already congested. It was considered that governments could give early attention to the problem of interference between aircraft and space vehicles and that technical studies could usefully be undertaken, if necessary with the assistance of competent specialized agencies.

5. Identification and Registration of Space Vehicles and Co-ordination of Launchings

It is expected that the number of space vehicles will progressively increase. In the course of time, their numbers may become very large. This indicates the necessity of providing suitable means for identifying individual space vehicles. Such identification of space vehicles could be obtained by agreement on an allocation of individual call signs to these vehicles; the call signs could be emitted at stipulated regular intervals, at least until identification by other means had been established. Another means of identification is by orbital or transit characteristics of space vehicles.

As part of the problem of identification, there arises the question of placing suitable markings on space vehicles so that, particularly in the event of their return to earth, they may be readily identified.

Identification would be facilitated by a system of registration of the launchings of space vehicles, their call signs, markings and current orbital and transit characteristics. Registration would also serve a number of other useful purposes. For one example, one serious problem is the potential overloading of tracking facilities. Registration of launchings would help to avoid this. Registration might also afford a convenient means for the notification of launchings to other States, thus enabling them to make appropriate distinctions

between the space vehicles so notified and other objects, and to take appropriate measures to protect their interests if necessary.

A further measure, beyond registration, would be agreement on the co-ordination of launchings.

6. Re-entry and Landing of Space Vehicles

Problems of re-entry and landing of space vehicles will exist both with respect to unmanned space vehicles and later with respect to manned vehicles of exploration. Where space vehicles are designed for re-entry and return, it will be appropriate for the launching State to enter into suitable arrangements with the State on whose territory the space vehicle is intended to land and other States whose air space may be entered during descent. Recognizing, moreover, that such landings may occur through accident, mistake or distress, members called attention to the desirability of the conclusion of multilateral agreements concerning re-entry and landing, such agreements to contain suitable undertakings on co-operation and appropriate provisions on procedures. Among the subjects that might be covered by such agreements would be the return to the launching State of the vehicle itself and (in the case of a manned vehicle) provision for the speedy return of personnel.

It was also considered that certain substantive rules of international law already exist concerning rights and duties with respect to aircraft and airmen landing on foreign territory through accident, mistake, or distress. The opinion was expressed that such rules might be applied in the event of similar landings of space vehicles.

C. OTHER PROBLEMS

1. Question of Determining Where Outer Space Begins

Under the terms of existing international conventions and customary international law States have complete and exclusive sovereignty in the air space above their territories and territorial waters. The concurrent existence of a region in space which is not subject to the same regime raises such questions as where air space ends and where outer space begins. It was noted that these limits do not necessarily coincide. While they have been much discussed in scholarly

writing, there is no consensus among publicists concerning the location of these limits.

A view was expressed that it might eventually prove essential to determine these limits. The Committee reviewed a number of possibilities in this connexion including those based upon the physical characteristics of air and of aircraft. The difficulties involved were agreed to be great. An authoritative answer to the problem at this time would require an international agreement, and the opinion was expressed that such agreement now, based on current knowledge and experience, would be premature. It was considered that, in the absence of an express agreement, further experience might lead to the acceptance of precise limits through a rule of customary law.

In the absence of a precise demarcation, another possible approach would be to set tentatively, on the basis of present experience and knowledge, a range within which the limits of air space and outer space would be assumed to lie. It was suggested that an approach of this kind should avoid a boundary so low as to interfere with existing aviation regimes or so high as unreasonably to fetter activities connected with the use and exploration of outer space.

There was also discussion as to whether or not further experience might suggest a different approach, namely, the desirability of basing the legal regime governing outer space activities primarily on the nature and type of particular space activities.

One development might be the conclusion of inter-governmental agreements, as necessary, to govern activities sufficiently close to the earth's surface and bearing such a special relationship to particular States as to call for their consent. Each such agreement could contain appropriate provisions as to the permissibility of a given activity by reference not only to altitude and "vertical" position but also to trajectory, flight mission, known or inferred instrumentation, and other functional characteristics of the vehicle or object in question.

It was generally believed that the determination of precise limits for air space and outer space did not present a legal problem calling for priority consideration at this moment. The Committee noted that the solution of the problems which it had identified as susceptible of priority treatment was not dependent upon the establishment of such limits.

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2. Protection of Public Health and Safety: Safeguards Against Contamination of Outer Space or From Outer Space

The Committee took note of the apprehensions that have been expressed that activities in outer space might bring to those regions, by inadvertence, living or other matter from the earth capable of interfering with orderly scientific research. It was agreed that further study should be encouraged under appropriate auspices to specify the types of risks, the gravity of dangers, and the technical possibility, as well as the cost, of preventive measures. Such study should also cover safeguards against similar contamination of the earth as a result of space activities as well as protection against other hazards to health and safety that might be created by the carrying out of programmes to explore outer space. These studies could be undertaken with a view to the possible formulation of appropriate international standards.

3. Questions relating to Exploration of Celestial Bodies

The Committee was of the view that serious problems could arise if States claimed, on one ground or another, exclusive rights over all or part of a celestial body. One suggestion was that celestial bodies are incapable of appropriation to national sovereignty. Another suggestion was that the exploration and exploitation of celestial bodies should be carried out exclusively for the benefit of all mankind. It was also suggested that some form of international administration over celestial bodies might be adopted.

The Committee noted that, while scientific programmes envisaged relatively early exploration of celestial bodies, human settlement and extensive exploitation of resources were not likely in the near future. For this reason the Committee believed that problems relating to the settlement and exploitation of celestial bodies did not require priority treatment.

4. Avoidance of Interference among Space Vehicles

It was agreed that, apart from problems of communications and overload of tracking facilities, there was presently little danger of interference of space vehicles with each other. It was pointed out that this situation might change in time, particularly if vehicles in space are used extensively for either global or

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interplanetary travel. There was discussion about the possible relevance to space travel of rules and experience developed in relation to air traffic. It was decided that more scientific information would be needed before rules could be drafted.

5. Additional questions raising legal problems

The Committee recognized that various other technical developments would probably call for legal arrangements and regulation. Particular reference was made in this connexion to meteorological activities in outer space which may require international measures to insure maximum effectiveness.

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MIEMBROS DE LA COMISION ESPECIAL PARA LA UTILIZACION PACIFICA DEL ESPACIO ULTRATERRESTRE

NOTE: Delegations are requested to send their corrections to the following list in writing to the Committee Secretary, Room 3545, Secretariat Building.

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NOTA: Se ruega a las delegaciones se sirvan enviar sus correcciones a la siguiente lista, por escrito, al Secretario de la Comisión, Oficina 3545, Edificio de la Secretaría.

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