

CHAPTER 2

The United Nations and the Regulation of the Space Environment (Outer Space, per se, the Moon, and other Celestial Bodies): The 1967 Principles Treaty

1. THE GENESIS OF LAW FOR THE SPACE ENVIRONMENT: ROLE OF THE UN

Before proceeding with this Chapter, it is necessary to indicate that a selective approach will be followed. Such an approach has been adopted, since in the following Chapters the impact of the provisions of the Principles Treaty upon future international agreements, as well as proposals for prospective treaties, will be examined in considerable detail. Further, there have been a substantial number of excellent and timely articles in which the essential terms of the Principles Treaty have been examined. Additionally, during the past decade all of the scholars who have undertaken a general coverage of international space law have given due attention to the Principles Treaty.¹ Nonetheless, the broader and more novel provisions of the Treaty will be analyzed in this Chapter, and special attention will be given to Article 4 of the agreement. This approach, it is believed, possesses the merit of portraying the historical foundations of the Treaty. It also relates the substance of the Treaty to the needs reflected in its implementation over time.

In assessing the international law of the space environment, namely, outer space, per se, the Moon, and other celestial bodies, it is necessary to refer to two separate but closely interrelated factors. First, one must be aware of the political-legal forces which give meaning and direction to the substance of the law. Second, one must take into account the principles, standards, and rules which compose the substance of the law. Only by giving consideration to both of these factors can one obtain a balanced view of international space law.

In assessing international space law it is also necessary to acknowledge that a large part of its substance is legislative in nature, although customary international law also has provided additional substantive prescriptions. In the creation of formal international agreements it must be remembered that the hard realities of scientific and technological achievements have a vast impact on the substance, processes, and direction of the law. Negotiators have frequently made real efforts to understand the nature and progress of science and technology before they have introduced their political-legal preferences into the world-value bargaining process. When these components have been intelligently blended, the basis exists for the reaching of an equation--admittedly somewhat transitory--which can be modified over time as assessments of the role of science and technology and the political-legal needs of the negotiators are reassessed. An understanding of the unique forces contributing to the substance, processes, and direction of this branch of international law will provide important insights into the rule of law as it has relevance within the world community.

The United Nations is the principal international organization dealing with the regulation of the space environment. During the International Geophysical Year (1957-1958) the United States proposed that the UN should work toward "the objective of assuring that the future developments in outer space would be devoted exclusively to peaceful and scientific purposes."² Following the successful launch of Sputnik 1 on October 4, 1957 the General Assembly of the UN on November 14, 1957, adopted Resolution 1148 (XII). The resolution had a disarmament focus. It urged that an agreement dealing with disarmament ought to make provision for the "joint study of an inspection system designed to ensure that the sending of objects through outer space shall be exclusively for peaceful and scientific purposes."³ Although the UN interest in the peaceful uses of the space environment has not taken place in the formal context of arms control and disarmament, nonetheless the issue of national security continues to influence the outlooks of States that have assigned to the UN major responsibilities for the development of international space law.

In March 1958, the Soviet Union, and on September 1, 1958, the United States, submitted proposals to the UN relating to international cooperation in the field of outer space.⁴ These were followed by a proposal of Secretary of State Dulles to the General Assembly on September 18, 1958. He asked that it establish an Ad Hoc Committee "to prepare for a fruitful program on international cooperation in the peaceful uses of outer space."⁵ These matters were referred to the First Committee, where in the form of the 20-power draft they were

approved by a vote of 54 to 9 with 18 abstentions. The negative votes were cast by members of the Soviet bloc which, as a part of "cold war" maneuvering, sought to connect outer space issues with the presence of overseas military bases. The report of the First Committee was adopted on December 13, 1958 as Resolution 1348 (XIII). This Resolution, by stressing the need for "international and scientific cooperation in the peaceful uses of outer space" and that "outer space should be used for peaceful purposes only,"⁶ set the tone for the development of international space law. The Resolution also established the Ad Hoc Committee on the Peaceful Uses of Outer Space. Pursuant to the Resolution the Committee was instructed to prepare a detailed report on space problems including "d. the nature of legal problems which may arise in the carrying out of programs to explore outer space."⁷ The Committee submitted its unanimous report on June 25, 1959.⁸

The Committee proceeded on the basis that it could not identify and define exhaustively all of the substantive legal problems that might arise in the exploration of outer space. Nonetheless, the Committee report was very prescient in its assessment of the future role of international space law. In its deliberations the Committee acknowledged that its terms of reference were the peaceful uses of outer space, that the space environment was to be explored, used, and exploited for the benefit of mankind, and that mankind possesses common interests in the space environment.

The Committee listed as legal problems susceptible of priority treatment the following six subjects: question of freedom of outer space for exploration and use, liability for injury or damage caused by space vehicles, allocation of radio frequencies, avoidance of interference between space vehicles and aircraft, identification and registration of space vehicles and coordination of launches, and reentry and landing of space vehicles. A second set of six concerns included the question of determining where outer space begins, protection of public health and safety, safeguards against contamination of outer space or the Earth from outer space, exploration of celestial bodies, interference between space vehicles, and the maximum effectiveness of meteorological investigations.

The Ad Hoc Committee was originally composed of 18 members. Over the years its successor, the Committee on the Peaceful Uses of Outer Space (COPUOS), has been increased in size. The 1958 membership consisted of three States from the Soviet bloc, namely, Czechoslovakia, Poland, and the Soviet Union. The other members were Argentina, Australia, Belgium, Brazil, Canada, France, India, Iran, Italy, Japan, Mexico, Sweden, the United Arab Republic, the United Kingdom, and the United

States. The Soviets considered the committee to be "one-sided and heavily weighted in favor of the Western powers."⁹ The three socialist States refused to participate in the early meetings of the Committee. Joining the boycott were India and the UAR which concluded that the Committee could not usefully serve its purposes in the absence of the Soviet Union. This appraisal undoubtedly was a valid one, since the principal space-resource States--the United States and the Soviet Union--needed to be in regular agreement on the formation of legal principles, rules, and policies for the space environment. In fact, many important developments in space law and policy down to the present have been the product of positions initiated by these two States. And, where these two States have not fixed the pace or set the tone for space law and policies, they have indicated that they must be consulted as to final outcomes.

By 1959 the United States and the Soviet Union had come to an understanding that the Ad Hoc Committee might be enlarged from its original 18 members to a 24-member Committee. Four States from the Socialist bloc were added, namely, Albania, Bulgaria, Hungary, and Romania. Also added were Austria and Lebanon. With the adoption of General Assembly Resolution 1472 (XIV) on December 12, 1959 COPUOS became a permanent body of the General Assembly.

With the continually enlarging membership of the UN, periodic changes have been made in the membership of COPUOS. Thus with the adoption of General Assembly Resolution 1721 E (XVI) of December 20, 1961, the States of Chad, Mongolia, Morocco, and Sierra Leone were added. The 28 became 37 on December 18, 1973 with the adoption of General Assembly Resolution 3182 (XXVIII). Added as new members by appointment of the President of the General Assembly were Chile, the Federal Republic of Germany, the German Democratic Republic, Indonesia, Kenya, Nigeria, Pakistan, Sudan, and Venezuela. Then, on December 20, 1977 a decision was taken to increase its size to 47. Ten new members were added with the adoption of General Assembly Resolution 32/196B. New members were Benin, Colombia, Ecuador, Iraq, Netherlands, Niger, Philippines, Turkey, United Republic of Cameroon, and Yugoslavia. In 1980 China expressed an interest in membership in COPUOS. This led on November 3 to an increase in the size of the Committee from 47 to 48 with China receiving membership with the adoption of General Assembly Resolution 35/16.

As the importance of space-related activities has become more apparent an increasingly large number of UN members have indicated a wish to assist in the formulation of space law and policy. This has taken the form of demands for the increase in the size of COPUOS. Through an augmentation of the size of the

body, geographical regions of the world have obtained a larger representation. Thus, on November 3, 1980 the General Assembly adopted a resolution requesting the president of that body to appoint not more than five new members to COPUOS following his consultation with regional groups.¹⁰ This led to seats on the Committee for Upper Volta representing the African group, Uruguay representing the Latin American group, Spain representing the Western European and Other group, and both the Syrian Arab Republic and Viet Nam representing the Asian group. The Eastern European group would have been entitled to representation, but it surrendered its claim to an appointment to the Asian group. At the same time Greece was appointed to membership following the withdrawal of Turkey.¹¹ In this manner the Committee was increased from 48 to 53 members.¹²

Three facts stand out in the augmentations of membership. First, the space resource States and those possessing an advanced science and technology were joined by representatives of the less-developed countries. Second, the equatorial States received strong representation. With the admission of Nauru to the UN in 1976 there were 12 equatorial States holding membership in the UN. Of these, five, namely Brazil, Columbia, Ecuador, Indonesia, and Kenya are members of COPUOS. Third, in 1981 the criteria of regional representation was accepted.

COPUOS has a legal Sub-Committee and a Scientific and Technical Sub-Committee. The subcommittees employ Working Groups for the drafting of reports, statements of principles, and proposed international agreements. When the Committee approves, via consensus, a proposed international agreement the matter is referred to the First Committee of the UN and then to the General Assembly. With the approval of the latter the agreements are then opened for signature. When ratified pursuant to the internal practices of the member States, such agreements--provided the required number of ratifications have been obtained and notice of the ratifications has been given to the Secretary-General--they become the heart of the formal international law applicable to the space environment. This procedure was employed in connection with the signature on January 25, 1967 of General Assembly Resolution 2222 (XXI), which became the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies; the signature on April 22, 1968 of General Assembly Resolution 2345 (XXII), which became the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Space Objects Launched into Outer Space; the signature on March 29, 1972 of General Assembly Resolution 2777 (XXVI), which became the Convention on International Liability for Damage Caused by Space Objects; the signature on January 14, 1975 of General Assembly Resolution 3235

(XXIX), which became the Convention on the Registration of Objects Launched into Outer Space; and the adoption on December 5, 1979 of General Assembly Resolution 34/68 entitled the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies.

In addition to the substantive merits of the several agreements, one reason for their acceptance has resulted from the manner of their negotiation. In the negotiation of the foregoing, as well as in the consideration of a number of draft proposals that have not as yet been approved, COPUOS has operated on the basis of consensus.¹³ Consensus at COPUOS has come to mean that a decision has been reached in the absence of any objection by a member State. An objection would be reflected by the identification of an obstacle to the taking of the decision on a matter before the Committee.

Historically, COPUOS arrived at the consensus posture following the 1959 decision to increase membership to 24 States. For two years the Committee had been unable to determine if a decision would be taken by a majority of votes or on the basis of unanimity. Unanimity was considered objectionable by member States, since this would allow but one member to veto the collective judgments of all of the other members. In order to avoid a veto it was considered that a procedure of nonvoting might be established.

The process of consensus was a compromise between the majority and unanimity voting alternatives. The practice was put into operation in 1962 with the statement by the Chairman of COPUOS that "through informal consultations, it has been agreed among the members of the Committee that it will be the aim of all members of the Committee and its subcommittees to conduct the Committee's work in such a way that the Committee will be able to reach agreement in its work without need for voting."¹⁴ However, in the event that consensus could not be achieved and voting were required, it was understood that the decision would be made by majority voting.¹⁵

Important decisions have been arrived at via consensus. The dedicated concern of negotiators has allowed for the development of a laborious and time-consuming process. Out of this has come coherent support for the end-product of negotiations.

The consensus process has been perceived as a very patient, low-key, and deliberate means for obtaining a maximum clarification of competing positions and for the final selection of words and phrases marking out the intended agreement. The pace allows for an avoidance of overly assertive national positions which might be regarded as irreconcilable. This in turn has

avoided the need to confront such claims by a final vote in which such overtly opposing positions were acknowledged.

Over the years the members of COPUOS have taken a supportively protective stance concerning the "aim" of consensus. The experience gained in the application of consensus has demonstrated that this approach has certain advantages.

One participant in the COPUOS consensus process has offered the following assessment: "No decisions or recommendations are made if objection is raised by any of the members. The extensive debates which often result from this procedure are a small and worthwhile price to pay for the reliability, thoroughness and widespread acceptability of the Outer Space Committee's work. The consensus procedure has in the long run proved to be one of the most efficient and effective, if not widespread, means to develop international law."¹⁵

The negotiators, having found it possible to arrive at agreements acceptable to all, have moved toward the facilitation of "maximum compliance" with the agreed terms. Their deliberate groundwork may also have "a positive psychological effect when members of a group feel together with sympathy for differing viewpoints, motivated by a desire to bring about harmony in their collective judgment."¹⁷ With such a process in operation it still would be possible for a State having a disagreement with the views of others to file an interpretation or understanding in order to protect a national point of view. Such a posture would not bloc the views of other States. The practice of consensus has generally allowed the members of COPUOS to avoid confrontational strictures. During negotiations the members have, on the whole, not found it necessary to engage in undue efforts to bring other States around to their respective positions.

The process of consensus has given considerable responsibility to chairmen who must work out and comprehend delicate nuances and find common ground. But, when these conditions have been reached the chairman has been able to exercise the prerogative of observing that if there is no objection the matter is decided. The practical results of the consensus process have been notable. Out of it have come "constructive, progressive and equitable principles of international law which States have respected to an unusually high degree."¹⁸ COPUOS, having learned to operate within the confines of consensus, may find it difficult to fall back on a procedure that still remains available, namely, having reference to a vote in which the views of a simple majority would nominally prevail.

COPUOS is aided in the performance of its functions by the

members of the Outer Space Affairs Division of the Secretariat. This consists of staff members who work directly with the Committee, with the two subcommittees, and with the Working Groups of the Committee or subcommittees. A Space Applications Section in the Division enables COPUOS to engage in a wide-ranging program on space applications. The work is performed by the U.N. Specialist on Space Applications. Through the personnel of the Outer Space Affairs Division important contacts are maintained with many international organizations, such as the International Telecommunication Union (ITU), and with developing countries seeking guidance and assistance in facilitating their own space programs.

COPUOS also receives information and advice from private groups. The scientific community, through the Committee on Space Research (COSPAR) of the International Council of Scientific Unions (ICSU), as well as the International Astronautical Federation (IAF), provides relevant information. Members of the Outer Space Affairs Division attend and deliver papers at the annual meetings of the International Institute of Space Law of the IAF. All of these contacts and exchanges allow for the gathering and dissemination of critical facts, for the identification of important international community and national interests and values, and for the suitable weighing of such facts and values in the taking of decisions--formal and informal--by authoritative decision makers.

When COPUOS consisted of but 24 members there was a greater homogeneity among the membership than at present. The enlarging membership is a mirror of the real world today. Thus, while the perspectives of the present membership involve greater complexity and more wide-ranging backgrounds and degrees of advancement than in the past, the same process for arriving at supportable decisions will be required of COPUOS as in the past. Many forces of the world social complex will affect the future decisions of COPUOS, and through it the entire membership of the UN. Not the least of such social complex forces will be an increasing awareness that there are an expanding number of practical space applications, including exploitation as well as exploration and use, which are now being undertaken. There is also an awareness that such activities are increasing at a time when both Earth and some space resources are being seen as increasingly limited. An awareness on the part of decision makers of larger demands for the use and exploitation of natural resources will render space law and policy, particularly in the forum of the UN, more important in the future than in the past.

The basic concepts, which were identified by the Ad Hoc Committee in 1958, have continued during the intervening years

to have a substantial influence upon the gradually evolving permanent committee. These fundamental proposals received emphasis in the early draft principles of space law presented to COPUOS in 1962 and 1963. These drafts, submitted by the United States, the Soviet Union, the United Kingdom, Belgium, and the United Arab Republic, among others,¹⁹ resulted on December 13, 1963 in General Assembly Resolution 1962 (XVIII) "Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space."²⁰ Previously the General Assembly had adopted, on October 17, 1963, Resolution 1884 on the "Question of General and Complete Disarmament."²¹ These early manifestations were supplemented in 1966 by the proposals of the United States and the Soviet Union. The former was entitled "Draft Treaty Governing the Exploitation of the Moon and Other Celestial Bodies."²² The latter was entitled "Draft Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, the Moon, and other Celestial Bodies."²³ These several drafts and proposals in the normal course of things have become the major provisions in the international space treaties that were produced by the UN during and since 1967.

2. THE 1967 TREATY ON PRINCIPLES GOVERNING THE ACTIVITIES OF STATES IN THE EXPLORATION AND USE OF OUTER SPACE, INCLUDING THE MOON AND OTHER CELESTIAL BODIES: BASIC INTERLOCKING PRINCIPLES

The 1967 Principles Treaty constitutes the main base for the legal order of the space environment.²⁴ As with all treaties the analysts have noted imperfections and have provided interpretations. A general assessment of the more important provisions follows.

a. Spatial Coverage of the Treaty

An analytical problem has resulted from a lack of consistency in the terms used to identify the spatial coverage of the treaty. In each of its 13 substantive articles, as well as in the Preamble, spatial terms are employed, but without uniformity or consistency. Undoubtedly, in most instances the inconsistent and non-uniform use of "outer space," "the Moon," and "other celestial bodies" can be laid to the time constraints and other exigencies surrounding the drafting process. However, in the case of Article 4, par. 2, reference only to the Moon and other celestial bodies was clearly intentional.

The Preamble makes a single reference to outer space, the Moon, and other celestial bodies. Additionally it speaks of outer space six times and celestial bodies once. Articles 1, 2, and 3 consistently refer to outer space, the Moon, and other celestial bodies. Article 4, par. 1, uses the terms outer space and celestial bodies, and also, as in the Preamble, refers to a space object "in orbit around the Earth." By 1982 the orbital area had gained general acceptance as the spatial equivalent of outer space.

By contrast, Article 4, par. 2, identified only the Moon and celestial bodies as areas in which the historic principle of peaceful purposes applies. Article 5, par. 1, referred only to outer space, while Article 5, par. 2, referred to outer space and celestial bodies. Articles 5, par. 3, 6, and 7 make many references to outer space, the Moon, and celestial bodies. Article 8 on three instances refers only to outer space and celestial bodies. Articles 9 and 10 used the terms outer space, the Moon, and celestial bodies. Article 11 initially used outer space, but subsequently employed outer space, the Moon, and celestial bodies. Article 12 employs only the Moon and celestial bodies, while Article 13 uses outer space, the Moon, and celestial bodies. The lack of consistency relating to the uses of the term celestial bodies, and not the Moon, in Articles 4, par. 1, 5, par. 2, and 8 has been clarified by the principal U. S. negotiator of the treaty. In commenting on the spatial coverage set forth in Article 1, namely outer space, the Moon, and other celestial bodies, Ambassador Arthur Goldberg observed that "obviously whatever the definition of outer space, the Moon and other celestial bodies are in outer space."²⁵ He also stated that the prohibition against the installation of weapons "on celestial bodies, which would include the Moon . . ." was a commitment of the parties.²⁶

Further evidence of the view that the term celestial body is extensive enough to include the Moon is found in his statement to the General Assembly on December 17, 1966 commenting on the coverage of Article 4, par. 1. This Article prohibited, among other things, the installation of nuclear or mass destruction weapons "on celestial bodies" without making reference to the Moon. Nonetheless, Ambassador Goldberg stated that the foregoing prohibition extended to "the Moon or any other celestial body. . . ."²⁷

These statements are consistent with the negotiating history of the Principles Treaty to the effect that the term celestial bodies included the Moon. Thus, par. 2 of the Soviet draft declaration of September 10, 1962 referred to "outer space and celestial bodies."²⁸ This expression was also contained in the Soviet draft declaration of April 16, 1963.²⁹ The British

draft declaration of December 4, 1962, referred in par. 1 to "outer space and celestial bodies,"³⁰ as did that of the United States of December 8, 1962.³¹

Article 4, par. 1, of the Principles Treaty, with its reference only to celestial bodies, was derived from General Assembly Resolution 1884 (XVIII) of October 17, 1963. The negotiations attending the drafting and adoption of this Resolution disclosed an intent to impose very broad spatial constraints on the use of nuclear and mass destruction weapons. The Moon was treated as one of the celestial bodies. Based on the language and understanding that the Moon was a celestial body as confirmed in the pre-1963 General Assembly Resolutions, and upon the four draft Declarations mentioned above, the General Assembly adopted Resolution 1962 (XVIII) on December 13, 1963. This Declaration used consistently the term "outer space and celestial bodies." This expression was intended to include the Moon as a celestial body. The Moon, because of its location in outer space, was considered to be one of the many celestial bodies. The fact that the Moon is repeatedly referred to in the context of the "Moon and other celestial bodies" in the Principles Treaty conclusively suggests that it is one of many such bodies. This conclusion is supported by consistent references in subsequent space treaties to the Moon as a celestial body. Wherever the term celestial bodies is used alone this must be interpreted to include the Moon.

b. The Use of the Moon and Other
Celestial Bodies Exclusively
for Peaceful Purposes

With the advent of human activities in the form of exploration, use, and exploitation of the space environment, no sharp legal distinction had been made between outer space and the Moon and other celestial bodies. All of these spatial areas were referred to generically as outer space. The original expectation was that outer space--in the foregoing sense--was to be used exclusively for peaceful purposes.

The expression "peaceful purposes" is a legal term of art. At the beginning of the space age several views were advanced as to its meaning, with one view being that military activities in the space environment could not be and were not peaceful. The opposing position, which today has gained general acceptance, is that nonaggressive military uses are peaceful. Thus, "peaceful" has come to mean general space activity that is beneficial to and in the interests of all countries. This is the mandate of Article 1, par. 1, of the Principles Treaty.

The hope that outer space, per se, as well as the Moon and other celestial bodies, would be used exclusively for peaceful purposes found expression in General Assembly Resolution 1148 (XII) of November 14, 1957.³² This Resolution, which was adopted in a disarmament context, accepted the concept that the "sending of objects through outer space shall be exclusively for peaceful and scientific purposes." This goal was reaffirmed by President Eisenhower in his letter to Premier Bulganin of January 12, 1958 in which he wrote: "I propose that we agree that outer space should be used only for peaceful purposes."³³ This theme was found acceptable at the United Nations in 1958 and became a part of General Assembly Resolution 1348 (XIII).³⁴ However, this was the last time that the General Assembly gave formal approval to this widely based appeal.³⁵ Nonetheless, the July 1959, Report of the Ad Hoc Committee to the General Assembly gave support to the early expectations. It accepted the view that peaceful uses should control outer space and that this spatial area should be employed for the benefit of all mankind.³⁶

With the commencement of negotiations that led to the Principles Treaty, attention was given to the substance that had been distilled from the understandings contained in General Assembly Resolutions 1884 (XVIII) of October 1963, and 1962 (XVIII) of December 1963. These Resolutions gave less significance to the peaceful purposes concept than had been previously accorded it. However, in the Preamble to the Principles Treaty two references were made to the exploration and use of outer space for peaceful purposes. Article 9 contains a commitment against potentially harmful interferences with the peaceful exploration and use of outer space, the Moon, and other celestial bodies. Article 11 provided that in order to promote international cooperation in the peaceful exploration and use of the space environment the parties would inform the world at large of the nature, conduct, locations, and results of such activities--but only to the greatest extent feasible and practicable. However, Article 4, par. 2, merely provided that "the Moon and other celestial bodies shall be used by all States to the Treaty exclusively for peaceful purposes."

This restrictive spatial application of the peaceful purposes principle was supported by the United States and the Soviet Union. Thus, the United States in the Preamble of its May 10, 1966 "Draft Treaty Governing the Exploitation of the Moon and other Celestial Bodies,"³⁷ intentionally narrowed the prior scope of the peaceful purposes concept by suggesting that "it is in the interest of all mankind that celestial bodies should be used for peaceful purposes only." This restricted role of the peaceful purposes principle was confirmed in Article 9 of the Draft, which provided that "celestial bodies shall be used

for peaceful purposes only."³⁸ On August 1, 1966 the United States submitted a working paper in which the early formula was modified to read only that "the Moon and other celestial bodies shall be used exclusively for peaceful purposes."³⁹

In the Preamble of its June 16, 1966 "Draft Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, the Moon, and other Celestial Bodies," the Soviet Union made use of the traditional expression, namely, "the exploration and use of outer space for peaceful purposes."⁴⁰ However, the Soviet draft adopted the same narrow scope that had been put forward by the United States. Thus, Article 4 of the Soviet draft stated that "the Moon and other celestial bodies shall be used exclusively for peaceful purposes."⁴¹ Both States connected this narrow application of the peaceful purposes concept to the broader constraints contained in General Assembly Resolution 1884 (XVIII), which prohibited the placing in outer space or on celestial bodies of nuclear or other mass destruction-type weapons. In any event the major space powers repudiated the views advanced in 1957 and in 1958 and which had gathered substantial support down to 1966. In doing so the space powers elected to reject the broad coverage contained in the Antarctica Treaty of December 1, 1959. This international agreement, which made no exceptions, provided in Article 1 that "Antarctica shall be used for peaceful purposes only."⁴² Limitations on military activities are contained both in Article 4 of the 1967 Principles Treaty and Article 1 of the Antarctica Treaty.⁴³

The views of the United States and the Soviet Union that the peaceful purposes concept should extend merely to the Moon and to other celestial bodies was criticized by important members of COPUOS when Article 4 of the Principles Treaty was being placed in final form. They indicated that by excluding outer space from the peaceful purposes command that it could be implied that outer space may be used for nonpeaceful purposes.⁴⁴

The dominant space powers were able to override the broader spatial application of the peaceful purposes concept. Influencing the views of the space-resource States were their successful launches of military space objects. According to Dembling and Arons, a ban in 1966 on such satellites "would have raised controversial issues presently within the purview of disarmament negotiations."⁴⁵ The limited disarmament provisions of Article 4 were seen by the United States and the Soviet Union as a key unlocking prospects for success on other provisions. They had different outlooks initially relating to the presence of military personnel at military facilities on celestial bodies and also on the meaning to be attributed to "the use of any equipment or facility" in the exploration of

the Moon and other celestial bodies. In dealing with these issues, as well as those contained in General Assembly Resolution 1884 and the Antarctica Treaty, the negotiators sensed that they had achieved the utmost that was open to them. Ambassador Goldberg in informing the Senate Committee on Foreign Relations respecting Article 4, par. 2, stated that the result had recognized "the realities of the situation since our astronauts, for example, are primarily military personnel."⁴⁶ He also stated that "the theory of this Treaty was that we should try to develop some rules as far as we could."⁴⁷ The Soviet representative took the same position saying "A number of questions would, of course remain to be dealt with after the elaboration of the Treaty, particularly the use of outer space for exclusively peaceful purposes."⁴⁸ Thus, Article 4, par. 2, as finally agreed to, and despite the failure to require the use of outer space, per se, for exclusively peaceful purposes, was considered "the most practical solution from the standpoint of an expeditious conclusion of a treaty on outer space."⁴⁹ Despite the terms of Article 4, par. 2, the policy of the United States as defined in section 102 (a) of the 1958 National Aeronautics and Space Act is that "activities in space should be devoted to peaceful purposes for the benefit of all mankind."⁵⁰

(1) An analysis of Article 4. The substantive coverage of Article 4 although extensive and important has come under much criticism. This has taken several and important forms. The Article has been described as being incomplete and inadequate to the well-being of mankind, whose interests would have been better served if the entire space environment, namely, outer space, per se, the Moon, and other celestial bodies, had been reserved for exclusively peaceful purposes and if all military activity, without exception, had been excluded from the area. It has been suggested that the terms of the Article were not clearly drafted and are muddled. It has even been suggested that the policies which are contained in the Article were not consciously considered prior to agreement being reached on the terms of the Article. These charges, relating to the lack of concern and inadequacies of the drafters of Article 4, are utterly without merit.⁵¹ Nonetheless, legitimate concern has arisen as to the limited constraints imposed in Article 4 on the types of weapons that may be introduced into outer space, per se, and the Moon and other celestial bodies, and the fact that Article 4, par. 2, requires only that the Moon and other celestial bodies be used exclusively for peaceful purposes. Dissatisfactions of this nature have resulted in suggestions relating to the interpretation of the Article, as well as for its revision.

According to its terms, the Article, at its best, is a limited

disarmament commitment. As has been pointed out, par. 1, while applicable to the totality of the space environment, prohibits the presence in these areas of only nuclear weapons and weapons of mass destruction. Further, as is clear from the text of par. 2, the area of outer space, per se, is excluded from the requirement of use exclusively for peaceful purposes. Further, in those areas reserved exclusively for peaceful purposes, namely, the Moon and other celestial bodies, it is permissible for parties to the agreement to use military personnel for scientific research or for any other peaceful purposes. Moreover, the use of "any" equipment or facility necessary for peaceful exploration of the Moon and other celestial bodies was not prohibited. No definition was provided as to what was a "peaceful purpose." It has also been observed by McMahon that "even if agreement is reached on a definition of the word 'peaceful' it would seem to be an almost insuperable task to disengage the military from the peaceful uses of space."⁵² The only specific prohibition respecting military uses was that there should not be the establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuvers. This prohibition applied only to the Moon and other celestial bodies.

Several approaches have resulted. On the one hand, it has been suggested that the express prohibition of the indicated military uses means that these, and only these, forms of conduct are proscribed. This is based on the general proposition that what is not prohibited in a suitably clear expression of intent remains permissible, and, hence, lawful.

A second argument has arisen relating to the meaning to be given to the peaceful purposes--military uses language of the Article. One school of thought has argued that peaceful purposes means nonaggressive conduct, and that all conduct--including military activity that is not aggressive--is permissible. This has been repudiated by opponents who claim that all military conduct is potentially aggressive and hence non-peaceful. This argument, in turn, is denied by those who consider that military conduct can be defensive and that the gathering of information respecting the military activities of States is designed to prevent hostile conduct and that the accumulation of data and information will avoid aggressive military conduct and contribute to general peace and well-being.

A third school of thought considers that, although the terms of Article 4 may, per se, allow for military activity, such a construction of the Article is not in keeping with the overall intent and purpose of the Treaty. In their view the inadequacies of Article 4, by the process of interpretation, must give way to the view that the Treaty in its larger sense obliges

signatories to advance the peaceful and beneficial uses of the space environment so as to avoid in all areas all conduct that has a military or nonpeaceful coloration.

The current involvement by the two major space-resource States in potential satellite interceptors, also referred to as Asats (antisatellite satellites), as well as outlooks toward arms control, has renewed interest in the meaning to be given to Article 4.⁵³ This interest has taken into account the fact that the evolution of Asats includes the sequential elements of development, testing, deployment, and possible future use. From the political-security perspective it is clear that national involvements in Asats are fundamentally destabilizing in the tenuous search for disarmament and arms control. Fears exist that taking Asats beyond the development and testing stage into deployment into the space environment would open a new arena in the world's arms race. Their deployment and use against non-national space craft, particularly those engaged in communications and reconnaissance activities, would present adversely affected States with critical security issues in the light of their potential vulnerability.⁵⁴

In addition to Asats and surveillance and communications satellites, there are several uses of outer space that have important military characteristics. These include the use of satellites for the guidance of strategic missiles and also the deployment by a space object of directed energy weapons, including high energy laser beams and atomic particle beams.⁵⁵

Even though Article 4 adopted the view that only the Moon and other celestial bodies are to be used exclusively for peaceful purposes, the meaning of this command must be understood. As is well known, opposing positions were put forward in the early 1960s as to the meaning to be given to "exclusively for peaceful purposes." In 1963 two Soviet scholars advanced the view that military uses were nonpeaceful and thus impermissible. Professor Zhukov wrote that "the concept of the 'peaceful use' of outer space excludes any measures of a military nature."⁵⁶ Shortly afterward Professor Korovin advanced the view that intelligence gathering via space objects was a military use of the space environment. He likened such an act to "espionage" and held it to be an impermissible use.⁵⁷ These views were seized by some students of international law and politics. They produced a considerable literature in which assertions were made that military activities, *ipso facto*, were not peaceful.

It has been urged that reconnaissance satellites are inherently aggressive in nature and since they have been launched by military personnel that they were automatically nonpeaceful in

their character. Although many students put forward the contrary view that the use of reconnaissance satellites was inherently stabilizing rather than destabilizing, this position did not initially obtain the acceptance of those who considered an uninformed world to be safer than one in which full knowledge of foreign military capabilities could be used in the clarification of security policies.

Those scholars, who concluded that the use of space objects for reconnaissance purposes was beneficial and peaceful, reasoned that such use was stabilizing. It was regarded as stabilizing in that it would provide information allowing a State to strengthen its military defenses against a possible surprise attack. By providing a strong defensive posture a potential aggressor would be discouraged from engaging in a first-strike tactic including the possible use of weapons of mass destruction.⁵⁸

Contributing to the demise of the position that military activities in the space environment were inherently aggressive has been the fact that it has been difficult to draw an intelligent line between military and non-military activities. Space objects engaged in communications, observations of earth from space, weather observation, and geodesy could be engaged in either a military, a non-military, or both military and non-military activities. Moreover, it is being more generally accepted that the presence of militarily-oriented reconnaissance satellites constitute "a favorable influence on the preservation of peace."⁵⁹ Thus, Goehndts now concedes that such space uses as military reconnaissance, communication, navigation, as well as possible other activities "cannot be considered illegal, neither under the Space Treaty, nor under any other positive rules of international law including those laid down in the Charter of the U.N."⁶⁰

A recent Soviet analysis of the military uses of the space environment has drawn a distinction between the partial demilitarization of outer space and the total demilitarization of celestial bodies. In accepting the premise that Article 4, par. 1, of the Principles Treaty imposes a partial demilitarization, the conclusion was reached that some military activity is allowable pursuant to Article 4, par. 1. The premise underlying this position is that certain conduct is either permissible or nonpermissible because of the provisions of the treaty--not because of any attempted link between military and aggressive uses. Further, the position was advanced that the ban contained in Article 4, par. 2, of total demilitarization of the Moon and celestial bodies "extends to all activities that pursue military aims in peacetime."⁶¹ Again, no link was attempted between military and aggressive uses. In each case,

namely the partial demilitarization of outer space and the total demilitarization of the Moon and celestial bodies, the use of space objects for communications and reconnaissance activities was not treated as a prohibited military use.

In 1981 the Soviet Union submitted to the UN a proposal calling for the absence of weapons of all kinds from the space environment. In a Draft Treaty on the Prohibition of the Stationing of Weapons of Any Kind in Outer Space, Article 1, par. 1, provided: "States Parties undertake not to place in orbit around the Earth objects carrying weapons of any kind, install such weapons on celestial bodies, or station such weapons in outer space in any other manner, including on reusable manned space vehicles of an existing type or of other types which States Parties may develop in the future."⁶² This proposal would amend Article 4, par. 1 of the 1967 Principles Treaty by extending the existing prohibitions which relate only to nuclear weapons or any other kinds of weapons of mass destruction. It is too soon, in 1982, to know what the considered responses of UN members will be to the Soviet proposal. It is noteworthy, however, that the proposal made no effort to prohibit military uses of the space environment, such as communications and reconnaissance activities.

The United States historically has advanced the position that the space environment should be used for beneficial and peaceful purposes, but that all States possess the inherent right to defend themselves against foreign aggression. In an effort to achieve a workable balance between these two positions the United States supported the terms of Article 4 of the 1967 Principles Treaty.⁶³ As is well known the United States has consistently equated the concept of beneficial and peaceful uses to nonaggressive uses of the space environment. Thus, it has consistently urged that a military use can in fact be peaceful and nonaggressive.

An example of the long-continuing position of the United States is the statement of Senator Gore before the First Committee of the UN on December 3, 1962. He stated:

It is the view of the United States that outer space should be used only for peaceful--that is, non-aggressive and beneficial--purposes. The question of military activities in space cannot be divorced from the question of military activities on earth. To banish these activities in both environments we must continue our efforts for general and complete disarmament with adequate safeguards. Until this is achieved, the test of any space activity must not be whether it is military or non-military, but whether or not it is

consistent with the United Nations Charter and other obligations of law.⁶⁴

The Principles Treaty failed to establish as a principle of international space law that the entire space environment should be used exclusively for beneficial and peaceful purposes, Article 4, par. 2 imposed this requirement only on the Moon and other celestial bodies. A participant in the negotiations has written: "During the drafting of the Treaty, the Indian delegation proposed an amendment to confirm that the parties to the Treaty (or all States) undertake to use outer space and the celestial bodies exclusively for peaceful purposes. Brazil, Mexico and some other delegations gave some support to this principle. But the Indian amendment was not generally acceptable. However much one may regret it, it is difficult to foresee any general acceptance, in the context of wider measures of disarmament, or a reservation of outer space for peaceful purposes, whatever that may mean, if the attempt was to exclude all use for defense purposes."⁶⁵ Nonetheless, the United States has never departed from the view that the peaceful purposes requirement allowed military activities for beneficial and peaceful purposes in the entire space environment. Since aggressive conduct is not a peaceful use, aggressive military activity would violate the terms of Article 4, par. 2.

(2) Article 4 and satellite interceptors. The recent emergence, either actually or potentially, of satellite interceptors, also referred to as anti-satellite satellites (Asats), has produced practical concerns and a need to understand the application of Article 4 to this phenomenon. It is evident that there are vast differences between the destructive capabilities of an Asat and the reconnaissance capabilities of traditional space objects. For example, the Asat seemingly has utility only in an attack or offensive situation, while satellites--although able to serve both civil and military purposes--traditionally have been wholly defensive in character. An operational Asat is to be characterized by its highly provocative potential. Traditional reconnaissance satellites have been employed to acquire information in nonprovocative circumstances.

The development, testing, and deployment of interceptor-type satellites by the Soviet Union, and the development and announced plans for the testing of such objects by the United States, has produced a destabilized condition respecting the exploration, use, and exploitation of the space environment. It appears likely that in 1982 the United States will engage in the testing of a miniature homing vehicle (MHV) in response to known Soviet activities.

The emergence of satellite interceptors has been influenced, in part, by the signature on May 26, 1972 of the Treaty on the Limitation of Anti-Ballistic Missile Systems and an Interim Agreement on Certain Measures with Respect to the Limitation of Strategic Offensive Arms, known as SALT ONE.⁶⁶ Pursuant to Article XII the United States and the Soviet Union, in order to assure compliance, "shall use national technical means of verification of the other Party operating in accordance . . ." with the foregoing commitment. Each country also promised "not to use deliberate concealment measures which impede verification by national technical means of compliance. . . ." The Interim Agreement in Article V restated the promises set forth in Article XII of the Treaty. During the subsequent negotiations between these two States, known as SALT TWO, similar guarantees were insisted on.

The very substantial reliance on reconnaissance satellites for the gathering of facts--the national technical means of verification--clearly indicates the risk to be taken by a State that uses an interceptor-type space object to restrict the utility of such means of verification. In assessing the need for the integrity of such satellites in the verification process it has been stated:

The SALT I Anti-Ballistic Missile (ABM) Treaty could not have been achieved had not satellite reconnaissance been available, and it and future agreements could not remain in effect were such reconnaissance capabilities not available for verification. Any threat to these capabilities could doom arms control and result in rapidly escalating arms races. Interference with such capabilities would not only contravene agreements like the ABM Treaty but could immediately halt any restraint on weapons procurement. The provocation would be so strong as to be considered an act of war.⁶⁷

So that the United States would not fall behind Soviet Asat operations a White House directive of June 20, 1978 announced several shifts in policy emphasis. On May 22, 1977 President Carter stated "We want a . . . no attack capability against space satellites."⁶⁸ While not abandoning the view that the SALT ONE agreement prohibits interference with reconnaissance satellites, as one aspect of the national technical means of verification, the June 20, 1978 directive established guidelines for U.S. activities in and use of the space environment. Encompassed within these guidelines was a program to "provide more assured survivability through evolutionary changes to space systems."⁶⁹ The White House stated:

The United States finds itself under increasing

pressure to field an anti-satellite capability of its own in response to Soviet activities in this area. By exercising mutual restraint, the United States and the Soviet Union have an opportunity at this early juncture to stop an unhealthy arms competition in space before the competition develops a momentum of its own. The two countries have commenced bilateral discussion on limiting certain activities directed against space objects, which we anticipate will be consistent with the overall U.S. goal of maintaining any nation's right of passage through and operations in space without interference.

While the United States seeks verifiable, comprehensive limits on anti-satellite capabilities and use, in the absence of such an agreement, the United States will vigorously pursue development of its own capabilities. The U.S. space defense program shall include an integrated attack warning, notification, verification, and contingency reaction capability which can effectively detect and react to threats to the U.S. space systems.⁷⁰

Although Asats constitute an issue for all States, in the past only a few States, other than the United States and the Soviet Union, have asserted strong positions on the subject. One exception was a French proposal voiced in May, 1978, in which it was suggested that "an international satellite observation system be established under U. N. auspices for world-wide monitoring of arms limitations agreements."⁷¹

However in light of the Asat developments of the United States and the Soviet Union, a number of States in 1980 engaged in protests over the militarization of outer space. At the October, 1980, meeting of the Special Political Committee of the U. N. General Assembly, 17 States indicated their concerns. Representative of these outlooks was the position of India, namely, that "No military activities should be introduced into space programs on any pretext."⁷² Support was voiced by the representative of Brazil, who stated that the 1967 Principles Treaty required that "outer space should be preserved as an environment free from military operations. . . ."⁷³ The conclusion was drawn by these States that the presence of military operations constituted a breach of basic international law.

The foundation for regularized negotiations between the United States and the Soviet Union was laid in their May 24, 1972 Agreement Concerning Cooperation in the Exploration and Use of Outer Space for Peaceful Purposes. In this agreement the two States engaged to "encourage international efforts to resolve

problems of international law in the exploration and use of outer space for peaceful purposes with the aim of strengthening the legal order in space and further developing international space law and will cooperate in this field."⁷⁴ Thus, on March 19, 1978, the United States proposed to the Soviet Union that negotiations be initiated to prevent the deployment and use of Asats. Discussions were held in Helsinki in June 1978 and have been pursued occasionally since that time. The initial focus of such negotiations was on the possibility of limiting Asats. The United States has indicated that it could not accept an imbalance of anti-satellite weapons stockpiles. In subsequent discussions the Soviet Union has expressed the view that the space-shuttle is, in effect, an Asat.

During the negotiations neither State has adopted the view that the mere development, deployment, or testing of interception-type satellites constituted a violation of Article 4 of the Principles Treaty. Thus, in 1977 a representative of the United States in speaking of Asats indicated that the 1967 Principles Treaty did not "contain any specific prohibition against the development of an anti-satellite capability."⁷⁵ It was also stated that so long as activities or experiments in the development of Asats do not cause "potentially harmful interference," they would not be in violation of Article 9 of the Principles Treaty. The fact that efforts were being made by the United States and the Soviet Union to arrive at limitations on the deployment and testing of such weapons systems can be taken as some evidence of the foregoing view.

Despite the destabilizing impact of the deployment and use of Asats, unless the view is accepted that their mere presence in the space environment constitutes a form of aggression or threat to peace, and there would be little doubt that their use would be so treated, such deployment would be arguably legal under the 1967 Principles Treaty. However, if it is true that the development, testing, and deployment of Asats have, in fact been destabilizing, then it is necessary to ask if the general objectives of the 1967 Principles Treaty are being subverted. Such general purposes were to assure that the space environment would be reserved for beneficial uses, although the command relating to exclusively peaceful uses of Article 4, par. 2 was limited to the Moon and other celestial bodies. Further, Article 4, par. 1 did not impose a total prohibition on military activities, since it limited the placement in Earth orbit, on the Moon and other celestial bodies, and in outer space of only two types of weapons, namely, nuclear weapons or any other kinds of weapons of mass destruction.

Despite the limited nature of such prohibitions, including an extended debate over whether the concept of peaceful uses

prohibited only aggressive uses, or whether the prohibitions extended to all military uses, as well, the essential purpose of the Principles Treaty was to allow for the peaceful and beneficial uses of the space environment as the province of mankind. This conclusion is supported by the "common interests" provisions of Article 1 of the agreement, by the requirement of Article 7 that misuse of the space environment would produce liability allowing for the recovery of damages, and by the terms of Article 9 requiring advance consultation in the event that an activity or an experiment would cause potentially harmful interference with space-environment activities. The general expectation flowing from the Principles Treaty was that States, which introduced space objects and component parts into the space environment, would not adversely affect the needs of the community for both safety and security. The expectation was and has been that space objects conforming to these fundamental needs would not be needlessly interfered with, that their functions would not be thoughtlessly impaired, that they would not be intentionally subjected to possible damage, and certainly that they would not be consciously destroyed. Violations of such expectations would result in peril for all.

(3) The revision of Article 4. Since, as a minimum, it appears that neither the United States nor the Soviet Union considers that either the 1967 Principles Treaty or general international law, prohibit the development, testing, and deployment of Asats, there is a need to obtain a new international agreement. It could deal with the general problem of Asats, including their use. Thus, it has been suggested that such an agreement should prohibit further "testing, deployment, or use of any Earth-based or space-based systems designed to damage, destroy or interfere with the functioning of any spacecraft of another nation."⁷⁶ Second, treating the Asat's weaponry as conventional in nature, it has been suggested that the following concept be incorporated in the agreement, namely, "a ban on the stationing in orbit, on celestial bodies or elsewhere in outer space of weapons designed to inflict injury or damage on the Earth, in the atmosphere or on objects launched into space from Earth."⁷⁷ These proposals would constitute a valid starting point for a consideration of a beneficial modification of Article 4, for they would reduce the possibility of arming the space environment. In so doing they would contribute materially to the stabilization of worldwide political-military relationships.

With the foregoing considerations in mind the following specific proposals are put forward regarding the revision of and addition to Article 4 of the Principles Treaty. Paragraph one should be extended to cover conventional weapons. It is no

longer acceptable to limit the scope of this paragraph to nuclear or mass destruction-type weapons. If there were any doubt whether an Asat is a conventional weapon, it would be desirable to provide specifically that Asats may not be launched into, tested in, or used in the space environment. Further, Article 4, par. 1 should be revised so that for the term "place in orbit around the Earth," there would be substituted "States Parties to the Treaty shall not launch or attempt to launch a space object that has the capability of orbiting or place in orbit around the Earth, the Moon or other celestial body."⁷⁸ This would mean that Article 4, par. 1 would read: "States Parties to the Treaty shall not launch or attempt to launch a space object that has the capability of orbiting or place in orbit around the Earth, the Moon, or other celestial body any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, conventional weapons including but not limited to Asats, install such weapons on the Moon or other celestial bodies, or station such weapons in outer space in any other manner." Article 4, par. 2 should be amended to include outer space, per se, as an area in which the command of exclusively peaceful purposes is to apply. To offer assurances that such purposes will be complied with, the new Article 4 might provide that space objects be equipped with docking facilities meeting a common international standard, so that inspections could be accomplished by non-national, including multinational, monitoring satellites. The UN could be the agency to engage in the inspecting operation. Further, it would be well to strengthen the reporting provisions of the Registration Convention so that no time delay would be permitted between a launch and the reporting of the characteristics of the launched space object.

If the foregoing provisions were to be written into a new Article 4, it would also be necessary to modify Article 12 of the Principles Treaty so that visits or inspections might be carried out during orbit. While the provision of reciprocity might be retained for visits accepted on a bilateral basis, it should be stated that a UN inspecting team would have the right to make a visit or inspection without the consent of the State whose satellite was to be inspected. With provisions of this kind in a new agreement it would be possible to arrange for procedures allowing a launching State to destroy its own space object, if it were obsolete or unsafe, while it was still a safe distance from the Earth. Such procedures, involving advance notification to the world, would forestall any concerns that a space object had been put to an aggressive use.

(4) Aggression, self-defense, and Asats. It is possible that the fairly recent clarification of the concept of aggression in

international law will induce caution in the deployment and use of Asats. UN General Assembly Resolution 3314 of December 14, 1974 provided that "Aggression is the use of armed force by a State against the sovereignty, territorial integrity or political independence of another State, or in any other manner inconsistent with the Charter of the United Nations, as set out in this definition."⁷⁹ The Resolution also identified the first use of armed force as a case of *prima facie* aggression. It identified a number of situations in which an invasion, attack, or bombardment by armed forces would constitute an act of aggression. It added stability to the goal of beneficial and peaceful uses of the space environment. The Resolution must be taken into account in planning for the development, testing, deployment, and use of Asats.

Certainty as to the rights and duties of States in the space environment can best be secured through the use of the formal treaty process. While State practices can be important in the development of customary international law, a prohibition of the kind suggested here requires the specificity that has been urged. This is particularly pertinent when an existing formal agreement is to be remedied.

Over the years the two major space States have learned that scientific and technical facts can influence and even control their policy decisions. Despite an initial difference relating to the legality of the use of reconnaissance-type satellites, there is now agreement that such space objects are legal under the Principles Treaty. Mutual benefits flow from the use of such objects. Perhaps it will be seen by both States that no national advantage will be realized through the development, testing, deployment, or use of Asats. Such activity—even short of actual use—has the capacity for creating such a destabilizing effect on international peace and security that it can be readily distinguished from military reconnaissance and communications activities. Since Asats present a unique and substantial threat to stability, and since their potential for mischief is large, there is a need for an early resolution of their legality.

Article 4 imposes important, but not comprehensive, limitations on the use of weapons for mass destruction and on non-peaceful activities. Pending the negotiation and entry into force of a more comprehensive disarmament and arms control agreement for the space environment, the views expressed by a former legal advisor to the U.S. Department of State still govern. He said that "the test of any space activity *cannot* be whether it is military or non-military, but whether it is consistent with the United Nations Charter and other obligations of international law,"⁸⁰ including, since 1967, the Principles Treaty.

In short, despite the previous history of disagreement between the United States and the Soviet Union concerning the meaning of the term "peaceful purposes," including an avoidance of a final determination of this during the negotiations of the 1967 Treaty⁸¹—such avoidance particularly as to whether reconnaissance was a peaceful use, thereby allowing both States to accept the terms of the agreement—, it is now reasonably clear that many military uses are considered by both States to be both peaceful and lawful.⁸²

From the foregoing it is clear that the United States has taken the position that the less than total arms control measures of Article 4, par. 1 for the entire space environment did not invalidate the inherent right of national self-defense pursuant to customary international law and Article 51 of the UN Charter. Further, it is clear that the United States in supporting the terms of Article 4, par. 2 was drawing a distinction between the exclusively beneficial and peaceful uses of the Moon and other celestial bodies as contrasted with aggressive uses. The distinction, then, as well as now, assures a State the right to engage in peaceful military activities in these limited areas. It may not engage in aggressive military activities by the use of mass destruction or nuclear weapons in the space environment, nor may it engage in aggressive military activities on the Moon or celestial bodies.

While States properly will continue to refer to their inherent right of self-defense, the purpose of the 1967 Principles Treaty was to create conditions in which States would not have to invoke practical defensive measures flowing from the self-defense principle. International law allows States to exercise only those lawful measures necessary to maintain a security position essential to the protection of their vital interests and to guarantee their continued survival. Nonetheless, it is possible that an unrestricted assertion of such rights may be counterproductive. It becomes so when international peace and security—also a basic precept of the UN Charter—become imperiled. Such basic peace and security are placed more in jeopardy and are rendered less realizable when destabilizing forces are put to work, especially when such forces feed on fears of new weapons. A new arms race in the space environment would be destabilizing when it is founded on competition among the space-resource States for progressively superior types of Asats.

c. Utilization of the Space Environment
For the Benefit and in the Interests
of All Countries and the Province of
All Mankind Principles

One of the most recited and durable themes in the emergence of international space law has been that the entire space environment is to be explored, used, and exploited pursuant to international law. Additionally, and pursuant to Article 1 of the Principles Treaty, such activity is to be carried out for the benefit and in the interests of all countries and shall be the province of all mankind.

The 1962 and 1963 draft declarations of principles put forward by the United States, the Soviet Union, and the United Kingdom expressed the goals variously. Thus, the United States suggested that "Outer space and celestial bodies are free for exploration and use by all States, on the basis of equal rights, in conformity with international law."⁸³ The United Kingdom proposed that "Outer space and celestial bodies are free for exploration and use by all States in conformity with international law."⁸⁴ The 1962 and 1963 Soviet proposals were identical. They stated "The exploration and use of outer space shall be carried out for the benefit and in the interests of the whole of mankind."⁸⁵ The Soviets also proposed that both "outer space and celestial bodies are free for exploration and use by all States."⁸⁶ These concepts became paragraphs 1 and 2 of General Assembly Resolution 1962 (XVIII). The restricted May 10, 1966 United States Draft Treaty merely proposed that "celestial bodies are free for exploration and use by all States on a basis of equality and in accordance with international law."⁸⁷ The Soviet 1966 Draft Proposal, on the other hand, was more comprehensive, with the final result being that Article 1, par. 1 of the 1967 Principles Treaty employed almost the exact words of the Soviet draft. Paragraph 2 of Article 1, par. 2 of the Soviet 1966 draft.

In their final form pars. 1 and 2 of Article 1 of the Treaty provided:

The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.

Outer space, including the Moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies.

The clause "irrespective of their degree of economic or

scientific development" had been proposed by Brazil on behalf of developing countries.

The foregoing paragraphs have established important, present rights relating to the utilization of the space environment and the resources located therein as well as important limitations upon man's space-environment activities. Of fundamental importance is the present right of States to freely and equally explore, use and exploit and have free access to the space environment and its resources. An important condition to such activities, in addition to the general requirement that such conduct comport with international law, is that such conduct shall be carried out for the benefit and in the interests of all countries and shall be the province of all mankind. The meaning to be given to these terms of the Treaty can only be understood through an examination of the purpose and intent of the entire Treaty and this can be comprehended only through an examination of the negotiations leading to its acceptance.

Although par. 1 refers only to "the exploration and use" of the spatial area of the space environment, the Treaty encompasses the exploration, use, and exploitation of both the space environment and the resources located in that spatial area. The consensus reflected in Article 1, par. 1 had received general approval even before its formulation in the Soviet proposal. This theme received approval in General Assembly Resolution 1348 (XIII) of December 13, 1958, 1472 (XIV) of December 12, 1959, 1721 (XVI) of December 20, 1961, 1962 (XVIII) of December 13, 1963, as well as in several paragraphs of the 1959 Report of the Ad Hoc Committee. The 1959 Antarctica Treaty was also mentioned during the negotiations. It influenced the meaning given to the terms found in the Principles Treaty.⁸⁸

During the debates on the Principles Treaty in July 1966 an effort was made to clarify the meaning of the word "use" as it appears in Article 1, par. 1. Support for the United States and Soviet proposals containing the expression "exploration and use" came from Austria,⁸⁹ Romania,⁹⁰ Argentina,⁹¹ and Italy.⁹² France in accepting the linking of exploration with use sought clarification of the meaning of "use." Thus, the French representative asked if the term implied "use for exploration purposes, such as the launching of satellites, or did it mean use in the sense of exploitation, which would involve far more more complex issues."⁹³ The French representative construed the term "use" to be the equivalent of "exploitation."⁹⁴ In making reference to the fact that exploitative activities were then taking place in outer space the French representative used as illustrations "meteorological research and telecommunications."⁹⁵ He added that "it was important for all States, and not only those engaged in space exploration, to know exactly

what was meant by the term 'use.' The word was, of course, to be found in the Declaration of Principles, but the latter was by no means exhaustive and should not preclude further textual improvements."⁹⁶ Hungary supported the French view that the terms exploration and use should be clarified, and urged the legal subcommittee to define such terms.⁹⁷

The relationship between the term "use" and "appropriation" was noted by the representative of Belgium. His observations focused on the suggestion, which became Article 2 of the Principles Treaty, that the space environment "is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means." It was his view that use would not produce a condition of sovereignty nor would it lead to the creation of titles to property in private law.⁹⁸

Following the entry into force of the Principles Treaty the practices of the space-resource States, and the acceptances of such practices by other States, confirmed the view that the term "use" encompassed the exploitation of resources of the space environment. However, in the Bogota Declaration of eight equatorial States of December 3, 1976,⁹⁹ the meaning to be assigned to the term "use" was again raised in connection with the occupancy of geostationary orbital positions and the use by space objects of such positions for radio broadcasting. The response of the United States on April 6, 1977 at COPUOS was that during the negotiation of the Principles Treaty the phrase "and use of" outer space "was specifically added to indicate international acceptance of peaceful activities in outer space other than scientific exploration only."¹⁰⁰ The United States also urged that "commercial satellite communications activities utilizing the geostationary orbit were well in hand and were widely known at the time, and no objection or exception to those activities was made either in the text of the treaty or during its negotiation. Furthermore, the *transit preparatory* reflect no intention of the drafters of the Treaty to except commercial activities from its application."¹⁰¹ The 1959 Report of the Ad Hoc Committee had also foreseen the prospect that the space environment would be used for human settlements with the clear implication being that this would require exploitative activities.¹⁰²

The view that outer space was to be explored and exploited for the benefit of mankind was accepted in the preamble of General Assembly Resolution 1348 (XIII) of December 13, 1958. This fact was commented on by the Ad Hoc Committee when it pointed out that "it was not always possible in relation to certain activities to differentiate between exploration and exploitation of outer space. . . ."¹⁰³

Following the entry into force of the Principles Treaty the early scientific explorations of the space environment have been augmented by a number of practical applications. These have taken many forms not the least of which have been communications, educational, and a myriad of monitoring or sensing activities. These functions and applications have produced major benefits and have given substantive meaning to the terms "use" and "exploration" as contained in the Principles Treaty. Practice has impressed a legal gloss on the written provisions of that Treaty. This gloss presently has converted the terms "use" and "exploration" of the Treaty into the non-exclusive right to engage in exploitative activities. A contrary conclusion could not survive the realities of the practices of States in the space environment since 1958.

Nonetheless, recently the proposition has been put forward that the "exploitation of resources by the use of space objects" has imposed an invalid constraint on the free and equal use of and free access to the space environment guaranteed in the Principles Treaty.¹⁰⁴ Aside from not according suitable weight to the customary law of the space environment the foregoing observation fails to take into account the negotiating history of the Principles Treaty.

According to the principal U. S. negotiator, Ambassador Goldberg, the analogy of the high seas, and in particular freedom of the high seas, was to appertain to the area of outer space.¹⁰⁵ Article 2 of the 1958 Geneva Convention on the High Seas, which was stated to be generally declaratory of established principles of international law made provision for freedom of navigation, fishing, the laying of submarine cables and pipelines, aerial overflight, as well as "other freedoms." In the 1955 commentary of the International Law Commission it was stated that such other freedoms included "the freedom to explore and exploit the subsoil of the high seas, and the freedom to engage in scientific research therein."¹⁰⁶ Article 24 of the same Convention made explicit reference to "the exploitation and exploration of the seabed and its subsoil."

Article 12 of the 1967 Principles Treaty also has relevance to the right to engage in exploitative activities on the Moon and other celestial bodies. This article makes reference to the fact that "normal operations" of the facility to be visited should not be interfered with. This article was designed to allow for access to stations, installations, equipment, and space vehicles on the Moon or a celestial body by nationals of another State. Such access was not to interfere with ongoing normal operations, including exploitative activities.

It has frequently been observed that Article 1 of the

Principles Treaty was written in general terms with the expectation that future practices would provide a clearer understanding of the quality and extent of the expressions "exploration and use." Such practices respecting outer space, per se, and the Moon have included exploitative conduct. It is reasonable to conclude that present practices are fully supportive of the basic expectation that exploration and use would not exclude exploitation. Indeed, a leading Soviet commentator on international space law has treated the exploration and use provisions of Article 1 of the Principles Treaty as meaning "exploration and exploitation." Support for this view was based on the proposition that customary international law formed prior to the negotiation of the Principles Treaty had established a *jus cogens* principle "stipulating that outer space shall be open to exploration and exploitation by all nations, without any discrimination whatsoever, on the basis of equality, and that it is not subject to national appropriation by claims of sovereignty over it by use or occupation or by any other means."¹⁰⁷

On the basis of this analysis, taking into account the terms of Article 1, the meaning accorded to the words of the agreement at the time of its negotiation, the meaning assigned by publicists both contemporaneously with the negotiation of the agreement and recently, the practices of the space-resource States both prior to and following the entry into force of the Treaty, and the denials addressed to the claims put forward in 1976 by the eight equatorial States, it may reasonably be concluded that the free and equal use and exploration and free access provisions of Article 1, par. 2 encompass non-exclusive rights on the part of all States to engage in exploitative activities.

The legal significance of the terms of Article 1, par. 1 providing that the exploration and use--and on the basis of the foregoing analysis also exploitation of the space environment--"shall be carried out for the benefit and in the interests of all countries" initially caused some concern. There can be no doubt that by accepting these terms States became legally bound by them. But, when compared with other provisions of the agreement, the foregoing phrase is general in nature. Since the purpose of the Treaty was to establish general principles, it was appropriate to employ general language to effectuate this objective.

When the nature of the obligation being adopted through the terms "shall be carried out for the benefit and in the interests of all countries" was being examined by the U.S. Senate Foreign Relations Committee, a legal opinion was received from the Department of State. This opinion indicated that Article 1 would "serve as a guide for space powers in developing their

programs and conducting their activities in space."¹⁰⁸ Further, "Article 1, paragraph 1 does not undertake to set any terms or conditions on which international cooperation would take place."¹⁰⁹ Given as illustrations of the newly assumed legal commitment to contribute to the benefit and interests of all countries were cooperative programs in scientific research in space, in the provision of weather data acquired through U.S. space objects, and in the supply of educational assistance on scientific and technological subjects to foreign students.

The legal opinion further indicated that before future, specific obligations could be established that it would be necessary for such new obligations to take the form of a separate international agreement. For example, the INTELSAT agreements existing at that time dealing with global communications were considered as retaining their legal force after the entry into force of the Principles Treaty. But, new arrangements on the sharing of communications benefits would still have to be entered into between future treaty partners to obtain the joint benefits of such communications facilities, despite the existence of Article 1, par. 1. The Department of State's view was that this provision "does not create legal obligations with respect to the terms of international cooperation on any existing or future space projects."¹¹⁰

Nonetheless, concern was voiced in the U.S. Senate that the words used in Article 1, par. 1 were ambiguous. It was thought that these provisions might be construed as requiring that benefits derived by the United States from the operation of communications and reconnaissance satellites would automatically have to be shared with other States. As a result, the United States Senate attached an understanding respecting its meaning at the time it gave its advice and consent to ratification. It reads: "It is the understanding of the Committee on Foreign Relations that nothing in Article 1, paragraph 1 of the treaty diminishes or alters the right of the United States to determine how it shares the benefits and results of its space activities."¹¹¹ Following the entry into force of the Principles Treaty in 1967 down to the present, States have not asserted claims to acquisitions resulting from the space activities of other States. For example, States have not demanded that they have a right to share in Moon rocks, monitored information, communications' facilities, or navigational data acquired by another State. On the other hand, the United States has voluntarily shared or made available at nominal costs the materials, data, and analyzed information which have been acquired. Some sensed States have objected to the disclosure of monitored primary data or analyzed information acquired within the territory of the sensed State.¹¹²

Although Article 1, par. 1 does not obligate a State to share specific space acquisitions, it may serve an even more important general interest. By calling attention to essential needs of mankind it does place emphasis on international cooperation. Further, it adds support to the view that the entire space environment, Article 4, par. 2 to the contrary notwithstanding, ought to be used for beneficial and peaceful purposes. Further, since the several provisions of the treaty must be considered in interpreting its central meaning, the guidance offered by Article 1, par. 1 clearly conditions the meaning to be given to all other treaty terms.

Article 1, par. 1 also contains the guarantee that the exploration, use, and exploitation of space environment shall be "the province of all mankind." This guarantee, which is mentioned twice in the Preamble and in Article 5 where astronauts are referred to as "envoys of mankind," placed for the first time into an operative portion of a formal international agreement a concept having a major concern for "all mankind."¹¹³ In so doing a critical new concept of twentieth century international law, which had been identified in General Assembly Resolution 1348 (XIII) on December 13, 1958 and jealously preserved in national drafts and subsequent General Assembly Resolutions, became a fundamental obligation of States.¹¹⁴ The impact of this legal principle has been far reaching. It has been extended beyond the law of the space environment. For example, it has substantially influenced the law of the sea through the term "common heritage of mankind," which in turn has impacted on that portion of space law governing the exploration, use, and exploitation of the Moon and its natural resources, as well as access to and use of the orbit/spectrum resource.

The introduction of the province of mankind concept into international space law can be understood only by taking into account the high expectations for humanity engendered by the enormous challenges presented to Earth-based humans as they have entered upon the exploration of the far dimensions of the universe. Success in space produced new perspectives for human progress. The challenges and romance of space activity carried mankind well beyond science and technology into expectations of humanistic adventures with visions of new forms of cooperation among peoples of many nations.

The general "province of all mankind" principle has been seen as a means for obtaining a more orderly and acceptable set of human relationships. As a means for unifying a number of other general and specific rights and duties contained in the Principles Treaty, it was designed to bolster the terms of Article 1, par. 1 assuring that the space environment be explored, used, and exploited "for the benefit and in the interests of all

countries." Thus, the term "province," having been adopted by the negotiators was considered to have the same meaning as "benefit of all mankind."¹¹⁵ The choice of "province" depended in part on the meaning conveyed by it in different languages, as opposed to alternative terms. As the U.S. representative noted in 1967 "there is no difference in conception between 'benefits and province.'¹¹⁶ He added "this was a sort of a freedom-of-the-seas provision."¹¹⁷ This observation indicated that the negotiators were aware of the *res communis* concepts applying to the ocean and were employing this analogy as they contemplated the legal rules to be applied in the exploration and use, including exploitation, of the space environment.

At the very least the broadly stated province of all mankind principle has constituted a synthesis of human expectations growing out of practical experience since the beginning of the space age. Mankind, through the utilization of the principle would be able to enjoy the peaceful and orderly use of a *res communis* resource. Exploration and use were to redound to everyone's advantage since such exploration and use "should be carried on for everyone's benefit."¹¹⁸

As a means for unifying other major provisions of the Treaty, the words "the province of all mankind" have given the agreement greater cohesion. This principle is both legally and practically related to the provisions of Article 1, par. 2 allowing freedom of access to celestial bodies and the free and equal exploration, exploitation, and use of the entire space environment. The mankind principle is complemented by Article 2 which denies the national appropriation through claims of sovereignty of the space environment. This Article also emphasized the application of the *res communis* principle to outer space, the Moon, and celestial bodies. The mankind principle is logically and practically related to the provisions of Article 3 requiring that exploration, use, and exploitation shall comply with international law and the UN Charter. In this fashion Earth-based international law, including the duty to maintain international peace and security pursuant to the Charter, were transferred to the space environment in order to serve the needs of society for order and stability in that environment.

The mankind principle was also supported by the terms of Article 9 seeking the avoidance of potentially harmful conduct, such as contamination or adverse changes in the natural environment, so as to take into account the corresponding interests of other States. Article 5, by accepting the view that astronauts are "envoys of mankind," makes their well-being a charge against all of society. Further, Article 5 acknowledged the fact that their security serves the common interests and

benefits of that society.

Also associated with the mankind principle is the obligation contained in Article 11 requiring the disclosure to the world at large of the general results of peaceful space activities. Through the sharing of information the general benefits and interests of society were to be furthered. In this fashion the mankind principle, as an enunciation of general goals to be realized as practical applications have become a reality, constituted a means to effect a blending of basic goals with identified and practical means of achieving them. The principle serves as an essential identification of the direction taken in the treaty and constitutes a link to more precisely stated expectations. In short, its function has been to unify and promote the terms and goals of the Principles Treaty.

d. Non-Appropriation of the Space Environment

From the outset of the space age it was seen that the space environment would sustain a great variety of activities and uses. To insure that such activities and uses, resulting from the application of science and technology, might serve the values, interests, wants, and needs of society generally, as well as particularized elements of that society, it was accepted that no claimant should be allowed to have exclusive control of the whole of the space environment or of its components, including its natural resources. The foundation for Article 2 of the Principles Treaty, which provides that "outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means" is to be found in General Assembly Resolution 1348 (XIII), which by its terms identified the wishes of UN members to "avoid the extension of present national rivalries into this new field."

The Report of the Ad Hoc Committee contributed to this goal by emphasizing that the space environment, if it were to be used for peaceful purposes, would require open and orderly conduct on the part of the space-resource States. The Report stressed the need for international cooperation in the future uses of the space environment.¹¹⁹ The Ad Hoc Committee also observed that a practice had emerged, namely, that outer space should be used for peaceful purposes and that this factual situation may have "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."¹²⁰ The Ad Hoc Committee directly addressed

the issue of problems likely to arise if one State were to assert exclusive rights concerning celestial bodies. The Committee reported that "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."¹²¹

UN members, motivated by the belief that the space environment should be used in an orderly way, proceeded to adopt resolutions culminating in Article 2 of the Principles Treaty. While General Assembly Resolution 1472 (XIV) merely repeated the desire to avoid the extension of present national rivalries into the space environment, General Assembly Resolution 1721 (XVI) made an explicit reference to exclusive rights. Pursuant to par. 1 (b) both "outer space and celestial bodies are free for exploration and use by all States in conformity with international law and are not subject to national appropriation." States, pursuant to the Resolution, were to be guided by such considerations.

This principle was endorsed by the United States in par. 3 of its Draft Declaration of December 8, 1962. However, in its 1966 Draft Treaty it limited the non-appropriation concept to celestial bodies. The Draft Declaration of the United Kingdom of December 4, 1962, provided a more explicit suggestion. Thus, in its par. 2 it suggested that "outer space and celestial bodies are not capable of appropriation or exclusive use by any State. Accordingly no State may claim sovereignty over outer space or any celestial body, nor can such sovereignty be acquired by means of use or occupation or in any other way."¹²² With modest drafting changes, this terminology became par. 3 of General Assembly Resolution 1962 (XVIII), which in turn--with the addition of specific reference to the Moon--became Article 2 of the Principles Treaty. This concept, without the reference to the Moon, had received Soviet approval in its Draft Declaration of December 10, 1962, in its subsequent Draft Declaration of April 16, 1963, and in its 1966 Draft Treaty on Principles.

The prohibition against national appropriation must be read in connection with the provision of Article 1, par. 1 of the Principles Treaty where it is ordained that equal and non-discriminatory exploration and use shall prevail. These provisions must also be related to the major provisions of Article 1, par. 2, namely, that such exploration and use are to be carried out for the benefit and in the interests of countries and all mankind. These provisions have led inevitably and conclusively to the view that human activities are favored. While such uses are favored, the opportunity to use is open to all.

Exclusive rights may not exist even though the practical capabilities of some explorers, users, and exploiters may be greater than others.

These treaty terms are clearly interconnected and identify the intent and purpose of the Treaty. Pursuant to them the space environment is subject to the rule of law.

e. The Rule of Law for the Space Environment

It would have been inconceivable for the space environment and its exploration, use, and exploitation to be immune from an Earth-based rule of law. Thus, from the time of the General Assembly's mandate in the form of G.A. Resolution 1348 (XIII) of December 13, 1958 to the present, there has been an awareness that legal problems might arise in the carrying out of activities and programs in the space environment. The Ad Hoc Committee was directed to report on the nature of such problems. The Committee responded by taking note of the U.N. Charter and the Statute of the World Court and concluded on the basis of observed practice in the space environment that "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."¹²³

The General Assembly in Resolution 1721 (XVI) of December 20, 1961 commended to States the principle that "International Law, including the Charter of the United Nations, applies to outer space and celestial bodies." This principle was supported in all of the drafts of the members of COPUOS from 1961, through 1966, and was contained in G.A. Resolution 1962 (XVIII) of December 13, 1963. It became treaty law with the acceptance of Article 3 of the 1967 Principles Treaty.

The assurance that the rule of law was to be applicable in the space environment was an essential ingredient of the basic proposition that the space environment was to be open to an orderly exploration, use, and exploitation for the benefit of all mankind. The presence of the rule of law in the space environment gave final assurance that the worthy basic objectives of the Treaty would be realized.

3. THE SIGNIFICANCE OF THE 1967 PRINCIPLES TREATY

Articles 1 through 3 of the Principles Treaty set the general tone for the peaceful exploration and use of the space

environment. The remaining articles were seen as having a more direct impact on the operational aspects--the activities--beginning to emerge with the frequent launches from 1958 to the present. Article 4, though not as far-ranging as might have been hoped, did impose limitations on the armament of the space environment and did save the "exclusively for peaceful purposes" principle for the Moon and other celestial bodies. Article 5 made provision for assistance and return of astronauts in distress. Article 6 established the principle of international responsibility for national activities. It allowed such activities to be carried on by private non-governmental entities as well as by governmental agencies, including international organizations. Article 7 made general provision for liability for damages on the part of a launching State for harms produced by space objects or their component parts. Pursuant to Article 8 a launching State was assured jurisdiction and control over a launched space object. Article 9 prescribed against harmful contamination and adverse changes in the natural environment. It contained a highly important provision relating to the duty to engage in consultations. Article 10 called for signatory States to have the opportunity to observe foreign space launches so as to promote international cooperation in the exploration, use, and exploitation of the space environment. Article 11, in order to promote these goals of international cooperation, imposed the duty on signatories to inform the world at large "to the greatest extent feasible and practicable" of the nature, conduct, locations, and results of space activities. Article 12 made provision for reciprocal visits by the nationals of one launching State to another's space object or installations while on the Moon and other celestial bodies. Article 13 accepted the proposition that space environment exploration, use, and exploitation may be conducted by a State, several States jointly, including situations where activities are "carried on within the framework of international intergovernmental organizations." Articles 14 through 17 dealt with non-substantive formalities.

The Treaty's contents were much influenced by the assessment of the 1958 Ad Hoc Committee. All of the members of COPUOS made contributions, although the role of the space-resource States was dominant. Not all of the suggestions made by the Ad Hoc Committee found their way into the Treaty. One in particular, relating to radio frequencies, has drawn the attention of the ITU. To the present an international administration for celestial bodies or for a human settlements program in outer space has not been realized, although both were on the list of subjects of the Ad Hoc Committee. Also recommended by the Ad Hoc Committee for early consideration was the definition or delimitation of outer space. The 1967 Treaty did not directly confront this issue.

The United Nations as the forum for the development of the general law of the space environment made a very considerable contribution through the facilitation of the Principles Treaty. The purpose of this agreement was abundantly clear. According to Senator J. W. Fulbright, Chairman of the U.S. Senate Committee on Foreign Relations, "The purpose of the treaty is to establish general principles for the peaceful exploration and use of outer space, including the Moon and other celestial bodies."¹²⁴ The Treaty was the fundamental starting point for national activities and for international cooperation in the exploration, use, and exploitation of the space environment. When the General Assembly gave its approval to the agreement Ambassador Goldberg advised that body that not every detail had been accommodated. It had not been intended to deal with "every contingency that might arise in the exploration and use of outer space, many of which are unforeseeable, but rather to establish a set of basic principles."¹²⁵ This purpose was achieved. Subsequent efforts have focused on building a set of formal agreements. Their purpose has been to render more specific the essence of the Principles Treaty as well as to extend and to enlarge on the basic principles. At the same time customary international space law has continued to mature.

FOOTNOTES

1. R. Adams, "The Outer Space Treaty: An Interpretation in Light of the No-Sovereignty Provision," 9 *Harv. Int'l L. J.* 148 (1968); B. Cheng, "The 1967 Space Treaty," 95 *J. du droit int'l* (Clunet) 532 (1967); C. Q. Christol, "The 1966-67 Space Treaty," *World Peace Through Law, The Geneva World Conference* 151 (1969); J. C. Cooper, "Some Crucial Questions about the Space Treaty," 50 *Air Force & Space Dig.* 104 (1967); H. G. Darwin, "The Outer Space Treaty," 42 *Brit. Y. B. Int'l L.* 278; P. G. Dembling, "Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space Including the Moon and Other Celestial Bodies," 1 *Manual on Space Law* 1 (eds. Jasentuliyana & Lee, 1979); P. G. Dembling and D. M. Aarons, "The Evolution of the Outer Space Treaty," 33 *J. of Air L. & Com.* 432 (1967); D. Goedhuis, "An Evaluation of the Leading Principles of the Treaty on Outer Space of 27th January 1967," 15 *Netherlands Int'l L. Rev.* 33 (1968); D. Goedhuis, "General Questions on the Legal Regime of Outer Space," in *Rep. of the Space L. Com., Int'l L. Assn., Buenos Aires, 1968*, 159 (1969); D. Goedhuis, "The Present State of Space Law," in *The Present State of International Law and Other Essays* 211 (ed. Bos, 1973); O. Hosni, "Treaty Governing the Exploration of Outer Space," 25 *Rev. Egyptienne de droit int'l* 129 (1971); P. de LaPradelle, "La charte de l'espace et des corps celestes," 30 *Rev. générale de l'air et de l'espace* 131 (1967); M. Mateesco-

- Matte, "Traite du 27 janvier 1967 et la réglementation activities spatiales," 31 *Rev. générale de l'air et de l'espace* 10 (1968); J. F. McMahon, "Legal Aspects of Outer Space: Recent Developments," 41 *Brit. Y. B. Int'l L.* 419 (1968); W. D. Reed, "Outer Space Treaty: Freedoms, Prohibitions, Duties," 9 *JAG L. Rev.* 35 (1967); G. Reintanz, "Der internationale Vertrag über die friedliche Nutzung Weltraumes," 16 *Staat und Recht* 484 (1967); D. de la Roche, "Convention sur l'internationalisation de l'espace," 13 *Annuaire français de droit int'l* 607 (1967); I. A. Vlasic, "The Space Treaty: A Preliminary Evaluation," 55 *Cal. L. R.* 507 (1967). Important commentaries also appeared in the *Proceedings of the 10th Colloquium on the Law of Outer Space* 105-172 (1968) and in the *Proceedings of the 11th Colloquium* 8-84 (1969). The following authors have contributed to an understanding of the 1967 Principles Treaty: A. Buckling, *Der Weltraumvertrag vom 27 Januar 1967* (1980); C. M. Chaumont, *Le Droit de l'espace*, 2d ed. (1970); C. Q. Christol, *The International Law of Outer Space* (1966); *Law and Politics in Space* (ed. Cohen, 1964); I. A. Osabafi, *The Concept of State Jurisdiction in International Space Law* (1971); E. Fasan, *Weltraumrecht* (1965); J. E. S. Fawcett, *International Law and the Uses of Outer Space* (1968); G. Gal, *Space Law*, 2d ed. (1969); S. Gorove, *Studies in Space Law: Its Challenges and Prospects* (1977); A. C. Haley, *Space Law and Government* (1963); C. W. Jenks, *Space Law* (1965); C. W. Jenks, *Space: A New World of Law* (1969); P. C. Jessup and H. J. Taubenfeld, *Controls for Outer Space and the Antarctica Analogy* (1959); J. Kish, *The Law of International Spaces* (1973); M. Lachs, *The Law of Outer Space, An Experience in Contemporary Law-Making* (1972); S. H. Lay and H. J. Taubenfeld, *The Law Relating to Activities of Man in Space* (1970); M. G. Marcoff, *Traité de Droit international public de l'espace* (1973); N. M. Matte, *Aerospace Law* (1969); N. M. Matte, *Aerospace Law: From Scientific Exploration to Commercial Utilization* (1977); M. S. McDougal, H. D. Lasswell and I. W. Vlasic, *Law and Public Order in Space* (1963); *New Frontiers in Space Law* (eds. McWhinney & Bradley, 1969); J. Morenoff, *World Peace Through Space Law* (1967); F. Nozari, *The Law of Outer Space* (1973); O. O. Ogunbawo, *International Law and Outer Space Activities* (1975); *International Space Law* (ed. Piradov, 1976); G. C. M. Reijnen, *Legal Aspects of Outer Space* (1977); D. D. Smith, *Space Stations, International Law and Policy* (1979); G. P. Zhukov, *Space Law* (1969).
- ¹²⁴Documents on Disarmament, 1945-1959, Vol. 2 at 733 (1960).
 - ¹²⁵Id. at 901-2.
 - ¹²⁶U. N. Docs. A/3818, 17 March 1958, and A/3902, 1 Sept. 1958.
 - ¹²⁷Dep't State Bul. 529 (1958). See C. Q. Christol, *supra*, note 1 at 183-230 for an assessment of the UN's early involvement in the legal and institutional aspects of outer space, the Moon, and other celestial bodies. General Assembly Resolutions between 1957 and 1962 are reprinted at 441-482.

- Christol, *supra*, note 1 at 456.
- ⁷*Ibid.*
- ⁸U. N. Doc. A/4141, 14 July 1959.
- ⁹Unanimity on Outer Space, "6 U. N. Rev. 18 (February 1960).
- ¹⁰U. N. Doc. A/RES/35/16, 3 Nov. 1980.
- ¹¹U. N. Doc. A/35/791, 12 Jan. 1981.
- ¹²The States composing COPUOS in 1981 are identified in Appendix 12.
- ¹³Present negotiations in COPUOS are concerned with direct television broadcasts, sensing of the Earth, the definition/delimitation of outer space, nuclear power sources, and space transportation systems.
- ¹⁴Statement of Dr. Franz Matsch of Austria. U. N. Doc. A/AC.10/5/OR.2, 19 Mar. 1962. See also U. N. Doc. A/5181, pp. 3-4, 22 Sept. 1962.
- ¹⁵E. Galloway, "Consensus as a Basis for International Space Cooperation," in *Proceedings of the 20th Colloquium on the Law of Outer Space* 108 (1978); A. D'Amato, "On Consensus," 8 *Can. Y. B. Int'l L.* 104 (1970).
- ¹⁶R. F. Stowe, *Statement, International Space Law*, Hearings before the Subcomm. on Space Science and Applications of the House Comm. on Science and Technology, 94th Cong. 2d Sess. 39 (1976). Compare, B. Buzan, "Negotiating by Consensus: Developments in Technique at the United Nations Conference on the Law of the Sea," 75 *AJIL* 324 (1981).
- ¹⁷Galloway, *supra*, note 15, at 106.
- ¹⁸Stowe, *supra*, note 16, at 39.
- ¹⁹Christol, *supra*, note 1, at 458-482.
- ²⁰*Id.* at 450.
- ²¹*Id.* at 462.
- ²²U. N. Doc. A/6327, 10 May 1966.
- ²³U. N. Doc. A/6352, 16 June 1966; U. N. Doc. A/AC.105/35, Annex 2, p. 12, 16 June 1966; Staff of Senate Comm. on Aeronautical and Space Sciences, Space Treaty Proposals of the United States and U.S.S.R., 89th Cong. 2d Sess. 9-15 (Comm. Print 1966).
- ²⁴18 UST 2410; TIAS 6347; 610 UNTS 205. The Treaty entered into force for the United States on October 10, 1967. By 1982 it was in force for over 80 States. See Appendix 1.
- ²⁵Treaty on Outer Space, Hearings before the Comm. on Foreign Relations, Senate Executive D, 90th Cong. 1st Sess. 55 (1967).
- ²⁶*Id.* at 22.
- ²⁷Staff of Senate Comm. on Aeronautical and Space Sciences, Report on Treaty on Principles Governing the Activities of the States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, 90th Cong. 1st Sess. 16 (1967).
- ²⁸U. N. Doc. A/AC.105/L.2, 10 Sept. 1962; U. N. Doc. A/5181, Annex 3, 27 Sept. 1962. Christol, *supra*, note 1, at 480.
- ²⁹U. N. Doc. A/AC.105/C.2/L.6, 16 Apr. 1963. Christol, *supra*, note 1, at 466.

- ³⁰U. N. Doc. A/C.1/879, 4 Dec. 1962. Christol, *supra*, note 1, at 469.
- ³¹U. N. Doc. A/C.1/881, 8 Dec. 1962. Christol, *supra*, note 1, at 459.
- ³²Christol, *supra*, note 1, at 455.
- ³³President Eisenhower and Premier Bulganin Exchange Correspondence on Proposals for Reducing International Tensions, "38 *Dep't State Bull.* 126 (1958).
- ³⁴Christol, *supra*, note 1, at 456.
- ³⁵N. M. Matte, *Aerospace Law* 263 (1969).
- ³⁶U. N. Doc. A/4141, Part III, pars. 2, 4, 30, 14 July 1959. Christol, *supra*, note 1, at 472-480.
- ³⁷Space Treaty Proposals, *supra*, note 23, at 9.
- ³⁸*Id.* at 10.
- ³⁹U. N. Doc. A/AC.105/35, Working Paper No. 6, Rev. 1, Annex 3, p. 4, 16 Sept. 1966.
- ⁴⁰*Supra*, note 23, at 12.
- ⁴¹*Id.* at 13.
- ⁴²12 UST 794; 1 TIAS 4780; 402 UNTS 71. The treaty entered into force for the United States on June 23, 1961. Nineteen States are bound by it including the Soviet Union. Article 1, par. 1 also provided "There shall be prohibited, *inter alia*, any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military maneuvers, as well as the testing of any type of weapons."
- ⁴³For an assessment of the latter see Jessup and Taubenfeld, *supra*, note 1, at Chs. 5 and 6.
- ⁴⁴Dembling and Arons, *supra*, note 1, at 433.
- ⁴⁵*Ibid.*
- ⁴⁶*Supra*, note 25, at 22.
- ⁴⁷*Id.* at 29.
- ⁴⁸U. N. Doc. A/AC.105/C.2/SR.66, p. 6, 21 Oct. 1966.
- ⁴⁹Dembling and Arons, *supra*, note 1, at 434. For an assessment of continuing problems relating to the inadequacies of Article 4 of the Principles Treaty, see C. Q. Christol, "Satellite Interceptors and the 1967 Outer Space Treaty," 51 *Brit. Y. B. Int'l L.* (in press) (1981). Compare, I. A. Vlasic, "Disarmament Decade, Outer Space and International Law," 26 *McGill L. J.* 135 (1981).
- ⁵⁰P. L. 85-568; 72 Stat. 426. Adherence to that policy was indicated with the publication of a "White House Press Release (Description of a Presidential Directive on a National Space Policy)" on June 20, 1978 which included the following: "The United States is committed to the principles of the exploration and use of outer space by all nations for peaceful purposes for the benefit of all mankind." Senate Comm. on Commerce, Science, and Transportation, *Space Law, Selected Basic Documents*, 2d ed., 95th Cong. 2d Sess. 559 (1978).
- ⁵¹C. Q. Christol, "Article Four of the 1967 Principles Treaty: Its Meaning and Prospects for its Clarification," in

Proceedings of the 21st Colloquium on the Law of Outer Space 192 (1979); *supra*, note 23; U. N. Doc. A/6431, 22 Sept. 1966; U. N. Docs. A/AC.105/C.2/SR.57 through 74, 20 Oct. 1966 through 27 June 1967; M. Lachs, *The International Law of Outer Space*, 113 *Recueil des Cours*, Vol. 3, 88-99 (1964); I. Brownlie, "The Maintenance of International Peace and Security in Outer Space," 40 *Brit. Y. B. I. L.* 1 (1964); J. A. Johnson, "The Freedom of Outer Space: Some Problems of Sovereignty, Control, and Jurisdiction," in *Proceedings of the Conference on the Law of Space and Space Communications, May, 1965*, p. 34, NASA SP-44 (1964); M. G. Marcoff, "Disarmament and 'Peaceful Purposes' Provisions in the 1967 Outer Space Treaty," 4 *J. Space L.* 3 (1976); M. G. Marcoff, "The Future of Space Law and the Disarmament Problem," in *Proceedings of the 18th Colloquium on the Law of Outer Space* 75 (1977); J. F. McMahon, "Legal Aspects of Outer Space," 38 *Brit. Y. B. I. L.* 360 (1964); J. T. McNaughton, "Arms Control," *Law and Politics in Space* (ed. Cohen 1964); V. More, "Military Uses of Outer Space: A Politico-Legal Perspective," 8 *Indian J. Int'l L.* 334 (1968); J. M. Orr, "The Treaty on Outer Space: An Evaluation of the Arms Control Provisions," 7 *Colum. J. Transnat'l L.* 259 (1968); J. R. Soraghan, "Reconnaissance Satellites: Legal Characterization and Possible Utilization for Peace-Keeping," 13 *McGill L. J.* 458 (1967); Note, "Legal Aspects of Reconnaissance in Air and Outer Space," 61 *Colum. L. Rev.* 1078 (1961). Detailed attention was also given to this subject at the 10th and 11th Colloquiums on the Law of Outer Space in 1967 and 1968.

52*Id.* at 362.

53R. Bridge, "International Law and Military Activities in Outer Space," 13 *Akron L. Rev.* 649 (1980); R. L. Garthoff, "Banning the Bomb in Outer Space," 5 *International Security* 25 (No. 3, Winter 1980/81); D. L. Hafner, "Averting a Brooding-Ian Skeet Shoot: Arms Control Measures for Anti-Satellite Weapons," 5 *International Security* 41 (No. 3, Winter 1980/81); E. Jaksetic, "Peaceful Uses of Outer Space: Soviet Views," 28 *Am. U. L. Rev.* 483 (1979); M. J. Ozeroff, *Satellite Power System (SPS) White Paper on Military Implications*, DOE/NASA (1978); W. D. Reed, "Legal Aspects of Military Peaceful Uses of Space," Speech to American Astronautical Society (1978); W. D. Reed and R. W. Norris, "Military Use of the Space Shuttle," 13 *Akron L. Rev.* 665 (1980); C. S. Sheldon, II, "The Soviet Interceptor Program," 16 *TW Space Log* 2 (1977); E. Stein, "Restrictions in Modern Arms Control Agreements," 66 *AJIL* 255 (1972); D. J. St. James, "The Legality of Antisatellites," 3 *B. C. Int'l & Comp. L. Rev.* 467 (1980); R. J. Zedalis and C. L. Wade, "Anti-Satellite Weapons and the Outer Space Treaty of 1967," 8 *Cal. W. Int'l L. J.* 454 (1978).

54C. S. Sheldon, II, Overview, Supporting Facilities and Launch Vehicles of the Soviet Space Program, Senate Comm. on Aeronautical and Space Sciences, Soviet Space Programs, 1971-1975,

Overview Facilities and Hardware, Manned and Unmanned Flight Programs, Bioastronautics, Civil and Military Applications, Projections of Future Plans, Vol. 1, Staff Report 23 (1976); H. Scoville, Jr., "Problems of International Security in Outer Space," in *The Stanley Foundation 18th Strategy for Peace Conference Report* 25 (1977); H. Scoville, Jr. and K. Tsipis, "Can Space Remain a Peaceful Environment?" *The Stanley Foundation Occasional Paper* 18, p. 7 (July 1978); H. H. Almond, Jr., "Arms Control Policy in Outer Space, Limitations on the Reach of Shared Policy and Shared Expectations," in *Proceedings of the 20th Colloquium on the Law of Outer Space* 125 (1978); W. H. Schauer, *The Politics of Space, A Comparison of the Soviet and American Space Programs* 48 (1976).

55Vlastic, *supra*, note 49, at 155-163; compare, Stockholm International Peace Research Institute, *Outer Space--Battlefield of the Future?* (1980).

56G. Zhukov, "Practical Problems of Space Law," *Int'l Aff. (Moscow)*, May 1963, at 27-28.

57E. Korovin, "Outer Space Must Become a Zone of Real Peace," *Int'l Aff. (Moscow)*, Sept. 1963, at 104-105.

58Christol, *supra*, note 1, at 263-319.

59Goedhuis, *supra*, note 1, "The Present State of Space Law," at 214; compare H. H. Almond, Jr., "Military Activities in Outer Space--The Emerging Law," in *Proceedings of the 24th Colloquium on the Law of Outer Space* (in press) (1982).

60*Id.* at 213. It has been acknowledged that "Though the Treaty in Article IV has prohibited the putting in orbit around the Earth of any object carrying nuclear weapons or other kind of weapons of mass-destruction and though it has been provided that the Moon and other celestial bodies shall be used exclusively for peaceful purposes, it has not prohibited the use of outer space *sensu stricto* for all military purposes. In the Report the Chairman suggested that this need not cause surprise when one considered that, in the present power structure of international society, the security interests of a State take precedence over all other interests." D. Goedhuis, "Some Legal Problems Arising from the Utilization of Outer Space," *Report of the Space Law Committee, International Law Association*, The Hague, 1970, p. 426 (1971). Italics in original. Professor Meyer came to the same conclusion. Thus, "a tacit agreement exists that in Outer Space 'non-aggressive military activities' shall not be forbidden and cannot be forbidden unless a general, total and controlled disarmament would deprive the very military apparatus of their existence. To claim an exclusive nonmilitary use for Outer Space would therefore be an illusory abstraction from the real conduct of States." A. Meyer, "Interpretation of the term 'Peaceful' in the Light of Law of Outer Space 24 (1969).

61*International Space Law*, 91 (ed. Piradov 1976).

- ⁶²U. N. Doc. A/36/192, Annex, p. 1, 20 Aug. 1981.
- ⁶³*Supra*, note 25, at 22.
- ⁶⁴U. N. Doc. A/C.1/PV.1289, p. 13, 3 Dec. 1962. He also stated that there is "in any event, no workable dividing-line between military and non-military uses of space." Examples given were the military status of U.S. astronauts and Soviet cosmonauts, navigation satellites being used to guide submarines as well as merchant ships, and the fact that instruments used to guide one space vehicle on a scientific mission can also be used to guide another on a military mission.
- ⁶⁵Darwin, *supra*, note 1, at 285.
- ⁶⁶23 UST 3435; TIAS 7503; 23 UST 3462; TIAS 7504. Both entered into force on October 3, 1972.
- ⁶⁷Scoville and Tsipis, *supra*, note 54, at 8.
- ⁶⁸President Jimmy Carter, "A Foreign Policy Based on America's Essential Character," 76 *Dep't State Bull.* 623 (1977).
- ⁶⁹Press Release, Office of the White House Press Secretary 3, 20 June 1978; Senate Comm. on Commerce, Science, and Transportation, *Space Law, Selected Basic Documents*, 2d ed., 95th Cong. 2d Sess. 558 (Comm. Print 1978).
- ⁷⁰*Ibid.*
- ⁷¹Scoville and Tsipis, *supra*, note 54, at 15.
- ⁷²U. N. Doc. GAOR A/SPC/35/SR.17, p. 17, 28 Oct. 1980.
- ⁷³U. N. Doc. GAOR A/SPC/35/SR.15, p. 8, 24 Oct. 1980.
- ⁷⁴Article 4, 23 UST 867, TIAS 7347. The agreement is presently in force.
- ⁷⁵*Digest of U. S. Practice in Int'l L.*, 1977, p. 665 (1979).
- ⁷⁶Scoville and Tsipis, *supra*, note 54, at 20.
- ⁷⁷*Ibid.*
- ⁷⁸Such terms would alleviate the dissatisfaction expressed by Italy on September 9, 1968 in its request for a General Assembly agenda item to be entitled "Necessity of Amending Article IV of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and other Celestial Bodies." U. N. Doc. A/7221, p. 2, 10 Sept. 1968.
- ⁷⁹29 U. N. GAOR, Supp. (No. 31) 142, U. N. Doc. A/9631 (1974).
- ⁸⁰L. C. Meeker, "Armaments and Outer Space," in *Law and Politics in Space* 83 (ed. Cohen 1964).
- ⁸¹During the final discussions of Article 4 by the Legal Subcommittee of COPUOS Ambassador Goldberg urged that "a treaty should be drafted on which there was a genuine prospect of agreement. Efforts should be concentrated on achieving what was possible and should not be abandoned because the ideal would not be achieved at once." U. N. Doc. A/AC.105/C.2/SR.65, p. 10, 24 Oct. 1966.
- ⁸²*Supra*, note 51.
- ⁸³*Supra*, note 31.
- ⁸⁴*Supra*, note 30.
- ⁸⁵*Supra*, note 28; U. N. Doc. A/AC.105/C.2/L.6, 16 Apr. 1963.

- ⁸⁶*Ibid.*
- ⁸⁷U. N. Doc. A/6327, 16 June 1966.
- ⁸⁸*Supra*, notes 42 and 43.
- ⁸⁹U. N. Doc. A/AC.105/C.2/SR.58, p. 3, 20 Oct. 1966.
- ⁹⁰U. N. Doc. A/AC.105/C.2/SR.61, p. 6, 20 Oct. 1966.
- ⁹¹U. N. Doc. A/AC.105/C.2/SR.63, p. 8, 20 Oct. 1966.
- ⁹²U. N. Doc. A/AC.105/C.2/SR.64, p. 4, 20 Oct. 1966.
- ⁹³*Ibid.*
- ⁹⁴Dembling and Arons, *supra*, note 1, at 431.
- ⁹⁵*Supra*, note 92, at 4.
- ⁹⁶*Ibid.*
- ⁹⁷*Ibid.*
- ⁹⁸U. N. Doc. A/AC.105/C.2/SR.71 and Add. 1, p. 7, 21 Oct. 1966.
- ⁹⁹Appendix 6.
- ¹⁰⁰Press Release USUN-18 (77), April 7, 1977; *Digest of U. S. Practice in Int'l L.*, 1977, p. 661 (1979).
- ¹⁰¹*Ibid.*
- ¹⁰²*Supra*, note 36, at par. 30.
- ¹⁰³*Ibid.* at par. 2.
- ¹⁰⁴H. A. Wassenbergh, "Speculations on the Law Governing Space Resources," 5 *Annals Air & Space L.* 616 (1980).
- ¹⁰⁵*Supra*, note 25, at 52 and 153.
- ¹⁰⁶1955 *ILC Y. B.*, Vol. 2 at 21-22 (1955).
- ¹⁰⁷Y. Kozlov, "Legal and Political Aspects of Space Exploration," *Int'l Aff. (Moscow)*, March 1979, at 88.
- ¹⁰⁸*Supra*, note 25, at 53.
- ¹⁰⁹*Ibid.*
- ¹¹⁰*Ibid.* To the same effect: Smith, *supra*, note 1, at 90-101.
- ¹¹¹Senate Comm. on Foreign Relations, *Treaty on Outer Space*, S. Exec. Rep. No. 8, 90th Cong. 1st Sess. 4 (1967). According to A. W. Rovine, Assistant Legal Advisor for Treaty Affairs, U. S. Department of State, a U. S. "understanding" on the meaning of a treaty provision "will be legally binding as between the United States and parties who accept such understandings or who do not object with a stated intention of preventing the treaty relationship with the United States from entering into force." Moreover, "There are no circumstances under which the United States could be considered, as a matter of international law or domestic law, as having undertaken legal obligations inconsistent with Senate reservations or understandings. A U. S. domestic court could not construe our treaty obligations in a manner inconsistent with such qualifications. Nor could an international tribunal." *The Moon Treaty*, Senate Comm. on Commerce, Science, and Transportation, Subcomm. on Science, Technology, and Space, Serial No. 96-115, 96th Cong. 2d Sess. 82 (1980).
- ¹¹²*Infra*, Ch. 12.
- ¹¹³However, the Preamble of the Antarctica Treaty, December 1, 1959, makes reference to "the interest of all mankind" in the exclusively peaceful uses of that continent. 12 UST 794; TIAS

4780; 402 UNTS 71.

¹¹⁴For a review of the impact of the mankind concepts on space law, see C. Q. Christol, "The Legal Common Heritage of Mankind: Capturing an Illusive Concept and Applying it to World Needs," in *Proceedings of the 18th Colloquium on the Law of Outer Space* 42 (1976).

¹¹⁵Goldberg, *supra*, note 25, at 69.

¹¹⁶*Id.* at 70.

¹¹⁷*Ibid.*

¹¹⁸*Id.* at 13.

¹¹⁹U. N. Doc. A/4141, Part II, pars. 121-131, 14 July 1959.

¹²⁰*Supra*, note 36, at par. 9.

¹²¹*Id.* at par. 30.

¹²²*Supra*, note 30.

¹²³*Supra*, note 36, at par. 9.

¹²⁴*Supra*, note 110, at 1.

¹²⁵*Supra*, note 27, at 16.

CHAPTER 3

International Liability for Damages Caused by Space Objects: The 1972 Liability for Damages Convention

1. INTRODUCTION

Man's ingenious use of the space environment is unquestionably still at an infant stage. Uses, both old and new, will result in misuses. Ironically, scientific and technological change and progress undoubtedly will produce new risks while at the same time causing awareness of previously unknown risks. The identification of risk, even in commonplace undertakings, has resulted in uncertainties. Because of the substantial, and possibly inherent, hazards involved in the exploration, use, and exploitation of the space environment, the need to determine the nature of risks has taken on particular significance. While the measurement of the so-called "risk of risks" cannot be known in particular detail, yet an awareness of such a situation may lead to the exercise of suitable care. At an early stage in the development of the international law of outer space, *per se*, the Moon, and celestial bodies, the proposition was accepted that formal international agreement should be obtained on liability for damages. Behind this conviction was the view that the imposition of liability would induce those engaged in space activities to take into account the basic rights of those who might be harmed by such activities. Such an approach was intended to insure caution as well as payment of damages to those who might experience harm.

The result has been the development of an international space law designed, not so much to condemn problematic misuses in general, but to facilitate and promote the peaceful exploration, use, and exploitation of the space environment and its natural resources. Space law, like all international law, has gone forward on the premise that conduct is presumed to be lawful in the absence of prohibitions. Permitted and unpermitted