

The UNITED STATES AND THE 1967 TREATY ON OUTER SPACE

By
Dr. Eilene Galloway*

Abstract

Faced in 1957 with rocketry that could be used for war and peace, we have managed for 40 years to preempt outer space for peaceful exploration and uses. The United States contributed to the concepts in the 1967 Treaty which was formulated during previous years with the purpose of guiding States in the conduct of their space activities. The NASA Act of 1958 includes some concepts designed to maintain peace and avoid war, others were developed in the United Nations where the U.S. played a leading role in organization of the Committee on the Peaceful Uses of Outer Space. Engineers, scientists and legal experts combined to lay the foundation for regulations essential for maintaining the space environment for efficient operation of satellites. As we celebrate 30 years of the 1967 Treaty and consider the future, we need to identify and safeguard our successful policies, organizations and programs and continue to build harmoniously on our regime of international space law.

Introduction

On October 10, 1997 it will be 30 years since the 1967 Treaty on Outer Space¹ went into force, and we can also celebrate 40 years since the space age began on October 4, 1957. For four decades we have been successful in achieving the main goal: preserving outer space for peaceful space exploration and uses and preventing the new environment from becoming an arena for orbiting weapons and international conflicts. We need to analyze the reasons for this success in order to protect the future by maintaining the regime of international space law that has been created.

The 1967 Treaty on Outer Space should not be analyzed merely from the date it went into force because the Treaty was actually 10 years in the making, and during that period nations complied with guiding principles that were incorporated in the Treaty. The influences that shaped legal provisions during the decade from 1957 to 1967 should be identified so we can better understand the foundation of the 30-year history and know what to carry forward into the future.

Nations were motivated by a number of forces directing their decisions and actions: there was fear of orbiting weapons of mass destruction; the same rocket technology promised amazing benefits to all mankind: space science and technology are inextricably international and generate patterns of cooperation among nations; space activities are risky and must be regulated; there were international organizations staffed with expert personnel to cope with new and related problems; the diversity of space applications increased opportunities for new services and expanded existing activities, notably in communications, meteorology and navigation.

The decade 1957-1967 was a period of amazing scientific and technological space development with political repercussions demanding decisions on national and international policies, organizations and programs. The United States played a leading role in the development of basic concepts both in national space laws and participation in United Nations negotiations on drafting the text of the Treaty's provisions and furthering their coverage in additional international space agreements.

Growth of Concepts for the 1967 Treaty

Among the significant movements that influenced the selection of concepts for the Treaty were the International Geophysical Year, the Antarctic Treaty, and Arms Control deliberations in the United Nations.

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*Honorary Director, IISL; Trustee Emeritus, International Academy of Astronautics; Fellow, AIAA; American Astronautical Society. Member NASA Advisory Committee on International Space Station.

International Geophysical Year (IGY),

July 1, 1957 - December 31, 1958.²

On July 29, 1955, the United States announced that “the President has approved plans by this country for going ahead with the launching of small, unmanned, earth-circling satellites as part of the United States participation in the International Geophysical Year... This program will, for the first time in history, enable scientists throughout the world to take sustained observations in the regions beyond the earth’s atmosphere”³ The U.S.S.R. Committee for the IGY stated on September 11, 1956 that “The U.S.S.R. intends to launch a satellite by means of which measurements of atmosphere pressure and temperature, as well as observations of cosmic rays, micro-meteorites, the geomagnetic field and solar radiation will be conducted.”⁴

The IGY covered a period when peak sunspot activity offered opportunities for scientists and engineers to make worldwide interdisciplinary studies of the Earth’s total environment. The international scientific community had organized two previous synoptic studies, known as Polar Years, in 1882-1883 and 1932-1933. On April 5, 1950, the American scientist Lloyd V. Berkner, suggested during an informal meeting of scientists, that advances in aviation and communications technology had developed new methods for extending knowledge of the Earth, oceans, atmosphere and outer space in connection with rocket and satellite research. The proposal was welcomed by the scientific community which was organized by scientific disciplines supported by 67 national governments, and coordinated by the International Council of Scientific Unions (ICSU).⁵

Dr. Joseph Kaplan, Chairman of the U.S. National Committee for the IGY, stated on September 11, 1956 that while the rocket-satellite program was only one part of the IGY effort, “the earth satellite is unique ... revolutionary, an historic event without parallel in terms of man’s relationship to his cosmic environment ... men are taking this historic step jointly under the aegis of the IGY, that unprecedented, cooperative exploration of our physical environment.”⁶

The IGY experience developed basic concepts that are reflected in principles and methods developed for their implementation: (1) the natural worldwide scope of data obtained from outer space; (2) the matching international views and practices of scientists and engineers in working on interdisciplinary global influences; (3) the models developed for organization and management of scientific, local, regional, and national aspects coordinated by an international organization; (4) the ability of scientists and engineers to obtain government support for funding and technical assistance; (5) their concern for preserving the environment and preventing contamination; (6) the necessity for exchange of scientific and technical information in the interests of mankind; and (7) the effectiveness of the scientific community in developing peaceful space benefits, working with political decisionmakers, and continually augmenting their ranks by educating young scientists and engineers from all countries.

The Antarctic Treaty, 1959⁷

When President Eisenhower addressed the United Nations General Assembly on September 22, 1960, on the use of the space environment, he pointed out that “The nations of the world have recently united in declaring the continent of Antarctica “off limits” to military preparations. We could extend this principle to an even more important sphere. National vested interests have not yet been developed in space or in celestial bodies. Barriers to agreement are lower than they will ever be again. The opportunity may be fleeting. Before many years have passed, the point of no return may have passed ... We must not lose the chance we still have to control the future of outer space.”⁸

The Antarctic Treaty made significant advances in international relations in melding scientific, political and legal elements involved in devising a regulatory regime. Strong agreement on mutually beneficial objectives motivated States to identify situations likely to cause international conflicts and defuse them in advance. Similarly, the requirements for success were formulated, and the process of negotiation gave nations the experience necessary for conducting fruitful international cooperation. Basic concepts in the Antarctic Treaty were carried over to the 1967 Treaty on Outer Space which also has a pattern of

prohibitions and permissions to ensure peace and prevent war.

Main provisions of the Antarctic Treaty which became models for the 1967 Treaty included (1) the interest of all mankind that Antarctica be used “exclusively for peaceful purposes”; (2) setting aside conflicting claims of sovereignty so positive work could proceed; (3) freedom of scientific investigation with exchange of information and results; (4) application of the United Nations Charter; (5) consultation between parties to settle disputes; (6) prohibition of military bases and fortifications, maneuvers, and testing of weapons; (7) permission for military personnel to engage in scientific research or other peaceful purposes; (8) prohibition of nuclear explosions; and (9) personnel made subject to the jurisdiction of which they are nationals.

The timing of this treaty in 1959 gave a psychological thrust for the next seven years to those who shaped the consensus for orderly guidance of the exploration and use of outer space, the Moon and other celestial bodies.

United Nations and Arms Control for Outer Space

Even before scientists and engineers hailed rockets and satellites as new tools for advancing scientific research, the United Nations focused on preventing their potential for use as weapons of mass destruction. The United States approached this problem as part of general disarmament and on January 12, 1957 sent a memorandum to the First Committee of the UN General Assembly that “... if this advance into the unknown was to be a blessing rather than a curse, the efforts of all nations in this field need to be brought within the purview of a reliable armaments control system.”⁹ Again on January 12, 1958, President Eisenhower called for action dedicating outer space to peaceful uses for mankind and denying the new technology for purposes of war.¹⁰

On September 22, 1960, President Eisenhower addressed the United Nations General Assembly and identified as the basis for international space cooperation some basic concepts that found their way into the 1967 Treaty:¹¹ He proposed to nations that:

1. We agree that celestial bodies are not subject to national appropriation by any claims of sovereignty.
2. We agree that the nations of the world shall not engage in warlike activities on these bodies.
3. We agree, subject to appropriate verification, that no nation will put into orbit or station in outer space weapons of mass destruction. All launchings of spacecraft should be verified in advance by the United Nations.
4. We press forward with a program of international cooperation for constructive peaceful uses of outer space under the United Nations. Better weather forecasting, improved worldwide communications, and more effective exploration not only for outer space but of our own earth – these are but a few of the benefits of such cooperation. Agreement on these proposals would enable future generations to find peaceful and scientific progress, not another fearful dimension to the arms race, as they explore the universe.

The United States and the United Kingdom played leading roles in United Nations’ negotiations culminating in the 1963 Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space and Under Water.¹² This treaty, now ratified by 112 nations, provided a concept that was later elaborated in Article IV of the 1967 Treaty prohibiting nuclear and other kinds of orbiting weapons of mass destruction.

The United States pursued policies in the United Nations that strengthened peaceful uses and implemented U.S. national space laws.

United States Laws and Programs

Nine years before the 1967 Treaty came before the United States Senate to consider advice and consent to ratification, the United States passed the National Aeronautics and Space Act of 1958¹³ whose declaration of policy and purpose begins with, “The Congress hereby declares that it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind (Sec. 102(a)).”

Section (7) calls for "Cooperation by the United States with other nations and groups of nations in work done pursuant to this Act and in the peaceful application of the results thereof."

Section 205 provides that, "The Administration, under the foreign policy guidance of the President, may engage in a program of international cooperation in work done pursuant to this Act, and in the peaceful application of the results thereof, pursuant to agreements made by the President with the advice and consent of the Senate."

When President Eisenhower signed the NASA Act, he stated that Section 205 authorized treaties but did not preclude less formal arrangements for cooperation in appropriate cases.¹⁴ This made it possible for NASA to launch a diversified space program of international cooperation.¹⁵

International agreements were made for tracking stations. Additional cooperative activities were undertaken in the following categories: manned flight, scientific satellites, optical satellites, transportable telemetry and command, data acquisition, and deep space. NASA published annual reports listing countries and details about the investigations being pursued. The 1967 report lists 84 countries, and this type of activity began immediately upon the establishment of NASA. In addition there were personnel exchanges of scientists and engineers from many nations. Such actions emphasized the concept that space exploration and uses involved all countries and individuals in any country.

The orbiting by the U.S.S.R. of the 184-pound Sputnik on October 4, 1957 was perceived as creating a defense problem, an impression that was reinforced when a second Sputnik weighing 1,120 pounds was launched on November 3, 1957. Such rocketry was evidence of the capability of launching intercontinental ballistic missiles. The IGY Vanguard satellite, planned by the United States, weighed only 3.25 pounds. The first Congressional hearings were held by the U.S. Senate Committee on Armed Services' Preparedness Investigating Subcommittee of which Senator Lyndon B. Johnson was Chairman. This "Inquiry into Satellite and

Missile Programs" began on November 25, 1957 and continued into November and January 1958.¹⁶ It became apparent from this investigation that special committees would be required to assist in planning the civilian organization of the government to carry on a comprehensive space program which could develop beneficial uses. On February 6, 1958 the Senate established the Special Committee on Space and Astronautics under the leadership of Senator Lyndon B. Johnson and on March 5, 1958 the House of Representatives created the Select Committee on Astronautics and Space Exploration with Hon. John W. McCormack as Chairman.

On May 13, 1958, Congressman McCormack introduced a House Concurrent Resolution calling for the Peaceful Exploration of Outer Space and expressing the sense of the Congress ---¹⁷

That the United States should seek through the United Nations or such means as may be most appropriate an international agreement providing for joint exploration of outer space and establishing a method by which disputes arising in the future in relation to outer space will be solved by legal, peaceful methods, rather than by resort to violence.

The Concurrent Resolution was passed by the House on June 2, 1958 and by the Senate on July 23, 1958.

In the Final Report of the Senate Committee on Space and Astronautics,¹⁸ Senator Lyndon B. Johnson emphasized the concept of the common interest of mankind in outer space and included in the recommendations that –

The Congress should be kept informed of progress being made in studies undertaken by the United Nations Ad hoc Committee on the Peaceful Uses of Outer Space. Particular attention should be paid to preserving and extending the patterns of cooperation which were formed during the International Geophysical Year. The special committee commends the National Aeronautics and Space Administration for establishing an Office of International Programs and appointing a Director of International Cooperation.

The Special committee concurred with the policy expressed in the President's message to the Congress of April 2, 1958 that 'it is of great importance to have the fullest cooperation of the scientific community at home and abroad in moving forward in the fields of space science and technology.'

After the NASA Act was passed, the Congress created new permanent committees with jurisdiction over space activities: the Senate Committee on Aeronautical and Space Sciences on July 24, 1958 with Senator Lyndon B. Johnson as Chairman; and the House of Representatives established the Committee on Science and Aeronautics on July 21, 1958 with Hon. John W. McCormack, Chairman.

The first significant development of space technology was in global communications. NASA developed communications' satellites and the U.S. moved quickly to establish the ownership, operation and regulation of a commercial communications satellite system. The Communications Satellite Act of 1962 continued the policy and purpose of international cooperation of using space technology for the benefit of all countries:¹⁹

- (a) The Congress hereby declares that it is the policy of the United States to establish, in conjunction and in cooperation with other countries, as expeditiously as practicable a commercial communications satellite system, as part of an improved global communications network, which will be responsive to public needs and national objectives, which will serve the communication needs of the United States and other countries, and which will contribute to world peace and understanding.
- (b) The new and expanded telecommunications services are to be made available as promptly as possible and are to be extended to provide global coverage at the earliest practicable date. In effectuating this program, care and attention will be directed toward providing such services to economically less developed countries and areas as well as those more highly developed, toward efficient and economic use of the electromagnetic

frequency spectrum, and quality of services and charges for such services.

This was the step that developed into the International Telecommunications Satellite Organization (INTELSAT) and anticipated concepts included in the 1967 Treaty. It led the way toward the functional development of space activities rather than toward the path of a world space agency.

United States and United Nations Space Organization

U.S. policy for international space cooperation as stated in the NASA Act of 1958, was quickly implemented in the United Nations. On September 2, 1958 President Eisenhower requested the UN General Assembly to consider a U.S. draft resolution proposing the creation of an Ad hoc Committee on the Peaceful Uses of Outer Space. The committee was to report on United Nations activities, resources and organizational practices which could facilitate international space cooperation, including a study of the legal problems involved.²⁰

Then occurred one of the most dramatic episodes in American history. President Eisenhower wished to indicate the unity of the U.S. Government, Executive and Legislative, on the values of international space cooperation, and at a time when the President was a Republican and the leader of the U.S. Senate a Democrat, Lyndon B. Johnson. The President sent a plane to Texas and Senator Johnson flew to the United Nations to lend his support for establishing the Ad hoc Committee on the Peaceful Uses of Outer Space. On November 17, 1958, Senator Johnson addressed the United Nations and urged the adoption of the resolution initiated by the United States:²¹

We of the United States have recognized and do recognize, as most all men, that the penetration into outer space is the concern of all mankind ... If nations proceed unilaterally, then their penetration into space becomes only extensions of their national policies on earth. What their policies on earth inspire – whether trust or fear – so their accomplishments in outer space will inspire also ... Today outer space is free. It is unscarred by conflict. No nation holds a concession there. It must remain that way.

Nineteen other nations joined in sponsoring the resolution which was adopted by the General Assembly on December 13, 1958. Many of the basic concepts in this resolution became principles in the 1967 Treaty. There was some delay in moving from an ad hoc to a permanent committee, but after agreement was reached on making committee decisions by consensus, the permanent Committee on the Peaceful Uses of Outer Space (COPUOS) was established on December 12, 1959 by UN Resolution 1472 (XIV). The result was that all the elements that were necessary to work on drafting the basic space treaty on principles were in place by the end of 1959: the policy for international cooperation for peaceful exploration and uses; the organization of members and supporting United Nations staff; and the method of reaching decisions by consensus. The organization of COPUOS into two subcommittees: the Scientific and Technical to ensure that principles are grounded in the factual requirements of space technology, and the Legal Subcommittee to shape realistic guidelines, created a situation which brought successful results. During the next several years, issues were debated and decisions cast into UN resolutions that contained the legal concepts which were to be included in the 1967 Treaty.

United Nations Resolutions Prior to 1967 Treaty.

On December 2, 1963, at a meeting of UN Committee 1 (Political and Security), U.S. Ambassador Adlai Stevenson stated the United States position on the draft text of the Declaration of Legal Principles Governing Activities of States in the Exploration and Use of Outer Space:²²

We believe these legal principles reflect international law as it is accepted by the Members of the United Nations. The United States, for its part, intends to respect these principles. We hope that the conduct which the resolution commends to nations in the exploration of outer space will become the practice of all nations.

Consensus was finally reached and on December 13, 1963 the UN General Assembly passed, by unanimous vote in plenary session the Declaration of Legal Principles Governing Activities of states in the Exploration and Use of Outer Space.²³ The document

refers to “the common interest of all mankind” and “the betterment of mankind and for the benefit of States irrespective of their degree of economic or scientific development.”

The Declaration identified guiding principles which were to become part of the 1967 Treaty. Space exploration and use were to be free for all States on the basis of equality and in accordance with international law; outer space and celestial bodies not subject to national appropriation by claim of sovereignty, use, occupation or any other means. International law, the United Nations Charter and international cooperation were specified, and States become internationally responsible for national space activities. They were to be guided by mutual assistance, cooperation, and consult regarding potentially harmful interference, retain jurisdiction and control over space objects carried on their registries, and be internationally liable for damage. Astronauts were to become “envoys of mankind.”

On the same day, December 13, 1963, the UN General Assembly passed the Resolution on International Cooperation in the Peaceful Uses of Outer Space.²⁴ This was a specific list of tasks that needed to be performed in order to implement the principles that were being formulated. The list reveals the careful planning and attention to detail required by the COPUOS and the UN Secretariat. COPUOS was to work out an international agreement on space exploration and use, and draft agreements on liability for damages and assistance and return of astronauts and space vehicles. Working papers were to be prepared on the resources of the United Nations and its specialized agencies, particularly the International Telecommunication Union (ITU) and the World Meteorological Organization (WMO). Summaries were wanted for national and international cooperative space activities.

The General Assembly called particular attention to the fact that the Secretary General, in accordance with General Assembly Resolution 1721 (XVI)²⁵ had established a public registry of objects launched into orbit and beyond. The United States and Soviet Union were already registering their launchings because space scientists and engineers required this information to keep track of their projects.

Four days after passing the resolutions on Legal Principles and International Space Cooperation, the United Nations General Assembly took action to prevent the spread of the arms race in outer space. On the question of General and Complete Disarmament, Resolution 1884 (XVIII) welcomed the expression of the United States and the U.S.S.R. of "their intention not to station in outer space any objects carrying nuclear weapons or other kinds of weapons of mass destruction." The Resolution called upon all States²⁶

- (2) to refrain from placing in orbit around the earth any objects carrying nuclear weapons or other kinds of weapons of mass destruction, installing such weapons on celestial bodies, or stationing such weapons in outer space in any other manner;
- (b) to refrain from causing, encouraging or in any way participating in the conduct of the foregoing activities.

This was another principle that was incorporated in the 1967 Treaty.

United States Ratification of the 1967 Treaty on Outer Space

On May 7, 1966, President Johnson proposed that international negotiations begin on the preparation of a treaty providing rules and procedures for the peaceful exploration of outer space and celestial bodies. Considerable progress had been made by the 1963 UN resolutions on Legal Definitions and International Space Cooperation adopted unanimously by the General Assembly "as a result of United States Initiatives" as explained by Ambassador Goldberg,²⁷ but the President wanted action in the form of a binding legal instrument. The U.S. Ambassador informed the Chairman of COPUOS, Ambassador Kurt Waldheim, of the President's proposal. The Legal Subcommittee, under the distinguished Ambassador Manfred Lachs, met in Geneva from July 12, to August 4 and again in New York, finally reaching consensus in early December. The UN General Assembly passed the 1967 Treaty by acclamation on December 19, 1966.

On January 27, 1967, the Treaty was opened for signature in London, Moscow, and Washington, and

at the White House ceremony 60 nations signed the Treaty. On February 7, 1967, President Johnson sent the Treaty to the Senate, whose advice and consent to ratification is required by the U.S. Constitution; he stated that²⁸

...The Treaty is an outstanding example of how the law and political arrangements can keep pace with science and technology. We hope by this treaty to establish an open and rational regime for outer space which will permit the greatest benefit to be derived from man's exploits there ... And we should act now to provide against the extension of the nuclear arms race to this new environment.

The Treaty was referred to the Senate Foreign Relations Committee whose Chairman, Senator J.W. Fulbright, opened hearings on March 7, 1967.²⁹

The Treaty did not come before the Committee as a newly-minted document as the Senators, officials in the Department of State and NASA had been participating in the drafting and consensus process of the United Nations, and particularly the Committee on the Peaceful Uses of Outer Space, ever since 1957, and even before that in the Arms control negotiations. Some of the legislators had served on the U.S. delegations to the COPUOS, including members of the House of Representatives. The Government was united and bipartisan on the objective of establishing a peaceful legal international regime for outer space and celestial bodies. The witnesses at the hearings were the Secretary of State, Dean Rusk, the U.S. Ambassador to the United Nations, Arthur Goldberg, members of the Joint Chiefs of Staff and other officials, all of whom endorsed the Treaty.

During the hearings, however, questions arose that required clarifying answers, particularly with regard to Articles I, IV, and VII. The Committee analyzed all the provisions but required the specific meaning of general provisions.

Senator Albert Gore asked: "To just what are we binding ourselves by this Article I, paragraph 1?" Does it obligate the United States to make the use of outer space by the Communications Satellite

Corporation available to all nations? Article I, paragraph 1 provides:

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.

Ambassador Goldberg undertook to dispel Senator Gore's concern. His analysis was that the "provision is based on a declaration by the Congress in Section 102(a) of the National Aeronautics and Space Act of 1958. That section states:

The Congress hereby declares that it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind. (76 Stat. 419).

He pointed out that the wording was a policy statement in the 1962 United Nations Declaration on Legal Principles Governing Activities of States in the Exploration and Use of Outer Space. After the U.S. introduced this provision, two additions were made to that declaration: (1) a reference to include the moon and other celestial bodies, and (2) the phrase proposed by Brazil – "irrespective of their degree of economic or scientific development." Ambassador Goldberg said the Article does not create legal obligations with respect to the terms of international cooperation on any existing or future space projects." The fact that the Communications Satellite Act leading to the creation of the International Telecommunications Satellite Organization (INTELSAT) was established was an example of ability to make specific agreements. Nevertheless, the concern of the Committee was such that it was decided to clarify the understanding in the Committee report (as hereinafter cited).

Senator Gore's question did not include the meaning of "the province of all mankind" in Article I, a question posed by Senator Frank J. Lausche. He wondered why the word "province" was chosen. Ambassador Goldberg replied that "province" was derived from the Declaration of Legal Principles in UN Resolution 1962 (XVIII), December 13, 1963,

and that the U.S. insisted on "province" because the negotiations dealt with many languages and it was considered "there is no difference in conception between "benefit" and "province." Senator Clifford P. Case said "it is a different word, too. 'Province' means anybody can get into it [outer space] rather than receiving benefits that come from it [outer space]."

Actually, the word "province" is not included in the 1963 Legal Principles but they do provide that "The exploration and use of outer space shall be carried on for the benefit and in the interest of all mankind". An explanation of considering "province" and "benefit" to be the same concept could be that benefits to all mankind inure from using province and are in contrast to using outer space for destructive purposes. There was no mention of the common heritage of mankind in the hearings.

The second paragraph of Article I includes the moon and other celestial bodies, provides for the rule of freedom in space on the basis of equality and in accordance with international law", a provision taken from the 1963 Declaration of Legal Principles for which the U.S. had exercised leadership in its formulation and adoption.

The third paragraph of Article I provides that –

There shall be freedom of scientific investigation in outer space, including the moon and other celestial bodies, and States shall facilitate and encourage international cooperation in such investigation.

This provision came from Article II of the 1959 Antarctic Treaty, and it was evident that the Committee was very favorable to the provisions made for the Antarctic. The Ambassador stated that "the United States has been leading the way in practicing international cooperation and felt it was appropriate for all parties to "facilitate and encourage cooperation."

While the Committee was concerned about Article I in applying the general principle to specific cases, the members did not want to go so far as to insist on amending the Treaty, and it was decided to clarify their understanding in the report to the Senate so

there would be no misunderstanding about the U.S. position.

The Committee report on Article I states:³⁰

Article I of the treaty provides that “the exploration and use of outer space * * * 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.” The committee raised the question whether the language of this general principle might imply a fixed treaty obligation on the part of the United States to share the benefits and results of its space activities, particularly in the communications satellite field.

After a full discussion of this point with administration witnesses, the committee was assured that no such specific treaty obligations would result. Nevertheless, the committee wishes to make its position clear on its understanding of the obligations the United States will accept under article I, paragraph 1 of the treaty. It is the understanding of the Committee on Foreign Relations that nothing in article I, paragraph 1 of the treaty diminishes or alters the rights of the United States to determine how it shares the benefits and results of its space activities.

It is interesting to note that the same interpretation is embodied in the UN General Assembly Resolution adopted on December 13, 1996 on the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interests of all States, Taking into Particular Account the Needs of Developing Countries.³¹

States are free to determine all aspects of their participation in international cooperation in the exploration and use of outer space on an equitable and mutually acceptable basis. Contractual terms in such cooperative ventures should be fair and reasonable and they should be in full compliance with the legitimate rights and interests of the parties concerned, as, for example, with intellectual property rights.

The Committee also had serious questions about Article VII on liability for damage. Ambassador Goldberg explained that a launching State is liable for physical damage caused by its space activities, such as loss of life, personal injury and destruction or damage to property. He stated that Article VII covers only damage caused by an impact of a space vehicle or object and does not cover electronic damage which would come under Article IX on interference. States Parties are required to consider the interests of other States, and if they are concerned about interference of any kind to consult about any situation that might cause potential damage. Ground-based space activities are not covered by Article VII.

The Committee was informed that work was already underway on drafting a specific convention on liability for damage, as well as one on assistance and return of astronauts and space objects. More definitive provisions on liability could be expected in the new draft convention. The Committee report therefore concluded:³²

Questions were also raised about the nature and extent of international liability assumed by a signatory state under article VII. That article provides in part that each state party to the treaty “from whose territory or facility an object is launched, is internationally liable for damage to another state party to the Treaty or to its natural or juridical persons by such object or its component parts. * * *.”

Administration witnesses assured the committee that a treaty on international liability in outer space is in the process of negotiation and will, if successfully negotiated, in due course be submitted to the Senate. Nevertheless, the committee concluded that a preliminary clarification of the liability provision was necessary. The question was raised during the testimony whether the liability provision of article VII includes nonphysical damage, such as electronic jamming and interference. In the course of the testimony, administration witnesses informed the committee that electronic interference by one spacecraft with another is not covered by the treaty. The committee wishes to record its understanding that article VII pertains

only to physical, nonelectronic damage that space activities may cause to the citizens or property of a signatory state. Article VII establishes the general proposition of international liability for damage caused by space vehicles. A separate convention devoted wholly to liability is needed to establish detailed rules. Such a convention is now under negotiation in the United Nations Outer Space Legal Subcommittee. The convention would provide procedures for determining liability and a mechanism for effectively resolving any differences. It would have to fix a limitation on liability, if there is to be one, and provide for allocation of liability among participants in a joint space venture causing damage.

The other clarification concerned a point in Article IV of the Treaty.³³

Another prime concern to the committee was the implications for American security of the first sentence of article IV: "States Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner." Because the inspection privileges, as defined in article XII, do not apply to objects in orbit, the possibility existed that the United States, for the first time, was committing itself to an arms control measure that was not safeguarded from violation by either the right of physical inspection or an effective national detection system.

During the public hearing on March 7 Secretary Rusk, in referring to the detection problem, said: "We have no doubt we can monitor effectively a weapons system placed in outer space."

The Senate gave its advice and consent and the United States ratified the Treaty on October 10, 1967.

Expanding the 1967 Treaty

During the negotiations on the 1967 Treaty, it became apparent that some of the general guiding principles dealt with problem areas where more

specific directives were required, and information was available for determining solutions. In fact, the Legal Subcommittee began working on these subjects while completing the 1967 Treaty and the United States actively participated in shaping the results.

This was the situation with the first three international space agreements that represent extensions of articles in the basic "Magna Carta" 1967 Treaty: Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space. Adopted by the UN General Assembly on December 18, 1967 (Resolution 2345 (XXII)) and entered into force on December 3, 1968.

Convention on International Liability for Damage Caused by Space Objects Adopted by the UN General Assembly on November 29, 1971 (Resolution 2777 (XXVI)) and entered into force on September 1, 1972.

Convention on Registration of Objects Launched into Outer Space. Adopted by the UN General Assembly on November 12, 1974 (Resolution 3235 (XXIX)) and entered into force on September 15, 1976.

The reasons why consensus was achieved on these three treaties should be examined in order to determine the factors that make for success in achieving international agreements.

First, the problems were real and imminent and it was apparent that solutions could be formulated. Astronauts and space objects were already being launched into outer space where they would encounter known dangers and their status needed to be defined. The need of engineers and scientists to know what objects were orbiting caused a registry to be established by the United Nations even before the registration convention was completed. Potential damage to lives and property raised questions of liability.

Second, early legal problems were all connected with conditions essential for successful operation of space vehicles, and COPUOS was organized to combine these factors by the work of its Scientific and

Technical Subcommittee followed by its Legal Subcommittee.

Third, those who were formulating the draft texts could include the relevant general principles of the 1967 Treaty in each of the specific three cases and be assured that a framework of harmonious space law would develop.

Fourth, the subject matter of these three treaties did not include political, economic, philosophical ideas and differences which can erect barriers to consensus, especially when they veer away from the facts of efficient operation of space technology.

This author attended many sessions of COPUOS and its Legal Subcommittee, and in observing the process of decisionmaking by consensus, came to the following conclusion:³⁴

It is evident that consensus is a highly desirable way of achieving international accord because (1) the process of seeking agreement continues with patience and is not cut off suddenly by a vote which may defeat what might have come to fruition had more time been taken with the give and take process of consensus; (2) the situation may be such that a majority vote could not result in the adoption of a course of action, particularly if implementation of the decision in terms of funding, personnel, and technological expertise, depended upon nations which had voted against the measure; and (3) group solidarity in decisionmaking ensures maximum compliance in establishing and maintaining an activity of general benefit. There is also 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. If a member has not objected, a proposal can be adopted but this unspoken consent should not be interpreted as negativism; there is a positive willingness to settle the issue in question.

Principles Adopted by the UN General Assembly

Although the space principles adopted by the UN General Assembly do not have the legal status of treaties, they provide guidance for activities that need governance, and have the potential of becoming treaties at a later time. For example, the work of the

U.S. Delegation on the 1962 Declaration of Legal Principles benefited the formulation of articles included in the 1967 Treaty.

After COPUOS was organized, the United Nations passed three more declarations on space principles, all of which cover subjects included in the U.S. space program:

Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting. Adopted December 10, 1982 Res. 27/92.

Principles Relating to Remote Sensing of the Earth from Space. Adopted on December 3, 1986, Res. 41/65.

Principles Relevant to the Use of Nuclear Space Power Sources in Outer Space. Adopted December 14, 1992. Res. 47/68.

Principles covering Nuclear Power Sources remain on the agenda of the Legal Subcommittee, thus providing the place and time to monitor developments that could have the potential of becoming a treaty. In any event, this UN procedure affords opportunity for keeping abreast of this vital force.

The Moon Agreement: Definition of the Problem.³⁵

The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies was adopted by the UN General Assembly on December 9, 1979 and opened for signature on December 18, 1979.

Eighteen years have passed and only nine nations have ratified this treaty: Australia, Austria, Chile, Mexico, Morocco, The Netherlands, Pakistan, Philippines and Uruguay. Five nations signed but have not ratified: France, Guatemala, India, Peru and Romania. This record is in sharp contrast to that of the four previous UN-formulated space treaties which encountered no such delay. The fact that none of the space powers has ratified the Moon Agreement is evidence of a problem that requires identification so that realistic solutions can be proposed. We have been successful since 1957 in establishing space law as a recognized branch of international law, and in this necessarily continuing process, it is not prudent

to let the Moon Agreement drift without trying to understand the reasons for general nonacceptance.

An historical perspective should contribute to an analysis of the nature of this problem. During the nine years when the Moon Agreement was being formulated, 1970-1979, we can distinguish four different climates of opinion based on different assumptions of the nature of the problem with consequent variations in proposals for solutions. The United States had landed a man on the Moon on July 21, 1969 and the Soviet Union had obtained samples from the Moon which led to the perception that exploitation of the Moon's natural resources was beginning although this was not the case. There was, however, a strong motive for continuing to ensure that the Moon would be used only for peaceful purposes. This was the psychology during the first period, 1970-1971.

The second period began in 1972-1973 when developing countries were motivated by concern that the natural resources of the Moon and other celestial bodies would be exploited to their disadvantage. However, by this time lunar exploration by the United States and the Soviet Union had practically ceased, so the problem was no longer primarily that of providing space law in tandem with space science and technology, which had been the case with the three previous space treaties spun from articles in the 1967 Treaty; instead, the motive was to establish the concept of the common heritage of mankind which would eventually require an international regime with jurisdiction over the exploitation of natural resources.

A third period emerged by 1978 when delegates to the Legal Subcommittee became impatient with the length of time this treaty's process was consuming and wanted either to settle something or lose priority for this agenda item. The Legal Subcommittee, however, could not reach a consensus at their 1979 session but hoped that the full COPUOS would be able to bring about consensus. This result was achieved on July 3, 1979 when major compromises were reached. The Soviet Union, which had objected to the common heritage of mankind concept since the beginning of negotiations, agreed to accept Brazil's proposal that the CHM concept apply only to the Moon Agreement. The developing countries gave up

their demand for a moratorium on exploitation of the Moon's natural resources prior to establishment of an international regime.

U.S. Ambassador Richard W. Petree addressed the UN General Assembly Special Political Committee on November 1, 1979 on the COPUOS report of the Moon Agreement. He explained the U.S. understanding that first, references to the moon are intended also to be references to other celestial bodies within our solar system other than the earth; secondly, that references to the moon's natural resources are intended to comprehend those natural resources to be found on these celestial bodies; and thirdly, that the trajectories and orbits referred to in Article I, paragraph 2, do not include trajectories and orbits of space objects between the earth and earth orbit or in earth orbit only.

The U.S. endorsed the Committee's understanding that Article VII does not prohibit exploitation of natural resources on celestial bodies but is intended to ensure that there will be minimum disruption and adverse changes to the environment.

The Ambassador pointed out that –

The common heritage concept, which was initially suggested by Argentina, but formally proposed by the United States in 1972, is set forth in Article XI, paragraph 1, which makes clear that its meaning for purposes of the Moon Treaty is to be found within the Moon Treaty itself.

A fourth climate of opinion developed in the United States when the Moon Agreement became available for ratification. Although the United States is only one among other space powers that has not ratified the Moon Agreement, nevertheless, some background may be helpful in achieving an up-to-date factual definition of the problem, and lead to realistic proposals for solutions.

Certain provisions in the Moon Agreement aroused strong pro and con reactions, largely because of the ambiguities and uncertainties of the common heritage of mankind concept, which gave rise to a variety of interpretations and definitions, and the proposal for

an international regime to exercise control over national space activities. To assess the situation, official actions were taken by the Executive Branch and the Congress. The Department of State surveyed aerospace and extractive industry companies and trade organizations. An Inter-agency review group was charged with analyzing the Treaty and estimating its effects. An indepth research effort resulted in a 3-volume study initiated by the Senate Committee on Commerce, Science and Transportation: Parts 1 and 2 are an historical study and analysis by Eilene Galloway. Part 3 is by the Office of Technology Assessment and covers current and foreseeable technologies related to exploitation of nonterrestrial resources, relevant plans to use the deep seabed, a summary of explicit and implied constraints on U.S. activities, and alternative legislative options for action. Part 4 by the Congressional Research Service is an interdisciplinary study of technological, foreign policy and legal issues.

On July 29 and 31, 1980 the Senate Subcommittee on Science, Technology and Space of the Committee on Commerce, Science and Transportation held hearings on the Moon Treaty to obtain testimony from government officials and other experts to determine how the treaty would affect the future use of space. Ronald F. Stowe testified as chairman of the Aerospace Law Committee of the Section of International Law, American Bar Association, in favor of ratifying the treaty but with specified interpretations of the common heritage of mankind, and that the United States "reserves to itself the right to decide how and to what extent it will share the benefits it derives from lunar resources..."

These serious, objective analytical approaches in the United States did not result in a clear go-ahead signal for ratification. It would be necessary to add the objections of other spacefaring nations in order to compile a complete record of the issues that need to be resolved. When France signed the Agreement on January 20, 1980, it was with a clarification of Article 3, but ratification has not followed.

This author's personal interpretation of the situation is as follows. The first three treaties spun from articles in the 1967 Treaty were based on then current problems with factual information from scientists and

engineers which could be closely aligned with legal solutions. The issue of exploitation of the natural resources of the Moon arose from historical fears of colonialism experiences and was not based on factual reports identifying the Moon's natural resources, the technology involved for exploitation, and the funding which would require billions of dollars. Based on assumptions, which were inadequate, and in some instances factually incorrect, the solutions proposed were more general principles: the common heritage of mankind and an international regime, concepts that were being interpreted in various ways. This was different from the pattern followed before when we advanced from a general guiding principle to specifics for an existing project. General principles are an advantage during negotiations when differences must be reconciled to produce a consensus. But when there is a specific problem, especially one involving the operation of space technology, it is necessary to match proposed regulations with the function to be performed. In formulating space law for the future, it is essential to base solutions on scientific and technological facts, and indeed the COPUOS is organized for this approach by its two subcommittees linking technology and law. In the case of the Moon Agreement, as time went on there were conflicting definitions for common heritage of mankind and especially of the international regime, while there was no movement toward exploitation of lunar natural resources or plans for funding either by governments or private industry. When the UN General Assembly reviewed the Moon Treaty in 1984, ten years following its entry into force after ratification by five nations, there was no evidence of feasibility for exploitation and no action was taken.

The probability that the Moon Treaty might need revision, however, was foreseen in Article 18 which provides that a review conference take account of any relevant technological developments. Commercial developments of potential relevance have now emerged. Emphasis of the Moon Treaty on natural resources eliminates consideration of other resources; for example, its provisions do not apply to solar power, and its application to asteroids might be questioned. Ideas about the international regime range all the way from less formal arrangements similar to those for the Antarctic to an institution with

a system of unspecified controls over national activities.

It is time to organize a workshop to study all related aspects of any proposed international regime and formulate an agreed definition of terms in harmony with the operational effectiveness of space technology as well as commercial aspects. The exploitation of natural resources is only one function among many global space applications. It is necessary to form a consensus among nations on common objectives and how they are to be achieved. We must keep in mind the implications of the Moon Treaty's provisions that "apply to other celestial bodies within the solar system, other than the earth, except in so far as specific legal norms enter into force with respect to them." On the basis of established space law, with which nations are already in compliance, we already have what amounts to an international regime organized by functions and managed by institutions, e.g. communications, meteorology, navigation and remote sensing.

Conclusions

The most remarkable achievement in the first 40 years of the space age is that nations cooperated to preserve outer space for peaceful uses and succeeded in denying space wars and other forms of international conflict. The United Nations became the forum for the convergence of space policies, organizations and methods for achieving decisions on beneficial objectives. During the first 10 years, 1957-1967, the United States actively contributed concepts that are included in the 1967 Treaty, both in the conduct of foreign policy and in national space legislation providing for international cooperation. At the time the Treaty entered into force, the United States had a variety of cooperative arrangements with 84 nations. Many nations were involved with the adoption of this "Magna Carta" treaty which helps to account for universal compliance by the international community with its guiding principles.

Certain articles in the Treaty have been expanded into new treaties to provide solutions for specific problems. Each new treaty repeats main provisions of the 1967 Treaty so that a consistent body of space law has been established. The result is that space law is now a recognized branch of international law.

As we evaluate the situation with an eye for the future, it is evident that the United Nations' organizations and procedures for outer space matters are effective: the Committee on the Peaceful Uses of Outer Space with its practice of analyzing problems by the Scientific and Technical Subcommittee, followed by the Legal Subcommittee, the Office for Outer Space Affairs as a continuously functioning secretariat; and the United Nations' specialized agencies, particularly the International Telecommunication Union and the World Meteorological Organization. The practice of making decisions by consensus has proved remarkably effective. Resolutions have also assisted in providing guidance for space activities. Criticism is voiced when actions on proposals are slow, but some subjects take more time than others to shape into a form that can attract general acceptance.

Consideration should be given to providing a better understanding of some general terms: mankind, benefits, access to space, resources, province, and the common heritage of mankind. Each term can be interpreted in several ways often depending on differing assumptions on political or economic philosophy. We have mankind in general that benefits from world peace, the absence of war, and a clean environment; and portions of mankind benefit in unique circumstances such as disaster relief or protection from the spread of contagious diseases. Some persons think of benefits only in terms of making a profit, and unless they are making money conclude that they have no benefits. They overlook the fact that the major benefit from space activities is information to solve problems on the Earth and contribute to an understanding of the Universe. Nations are willing to accept "province of all mankind" where opportunities are available to participate in a variety of space projects, but there is not general acceptance of the "common heritage of mankind" if that means property rights or a specific institution to control national space programs. Then there are those who conclude that unless they get the specific benefit they want, then they get no benefit, evidently taking for granted such blessings as global space communications and a healthy environment.

It has been 25 years since the common heritage of mankind concept was introduced as an agenda item

for the Committee on the Peaceful Uses of Outer Space, and in 18 years only nine nations have ratified the Moon Agreement, and during this time the original definition of the problem, for which legal remedies were formulated, became outdated. New scientific, technological, political and commercial trends have developed so we now need a current assessment of the problem. This is particularly important because the Moon Agreement specifies that its provisions "shall also apply to other celestial bodies within the solar system, other than the earth, except in so far as specific legal norms enter into force with respect to any of these celestial bodies." (Article I (1)). This provision is not a sufficient guideline for formulating future space law for all celestial bodies and, indeed, creates uncertainty, unpreparedness, and inaction.

An objective study of current facts and options for the future should be undertaken. This could be by a Workshop with broad representation of scientists, engineers, industry and government personnel. Or the task could be assigned to a Standing Committee of the International Institute of Space Law combined with the International Academy of Astronautics. In either case, the terms of reference should include the requirement for factual information identifying natural resources, the technology required to exploit them, the cost, estimates of whether private industry or governments (or a combination of both) would undertake this venture.

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