The New York Times of September 13, 1979, carried a large boxed article reflecting an interview with Hon. Edward R. Finch, Jr., the title of which reflects his views—"Time for Earthlings to Sign a Moon Treaty", and this writer agrees.

It is the hope of this writer that the private sector may yet concur with the U.S.'s becoming a Party to the Moon Treaty and provide guidance to the Government as to recitals for the subsequent agreement on the international regime, its procedures and regulations governing the exploitation of natural resources of the moon and other celestial bodies. Among matters to be determined are the nature of the international regime, and a clarification of the benefits and equitable sharing to be accorded other States. As risk capital will be involved, to what extent should there be a recoupment of costs and other entitlements in sharing resources or benefits accruing therefrom? Should benefit sharing be extended to activities to which the exploited resources are applied? Should still later developed commercial space activity aboard a space station constructed in part from exploited resources be included? As many years will surely elapse before exploitation of natural resources can be determined to be commercially feasible, experience gained may well assist in ascertaining benefit allocations.

Industry is naturally aware of the U.S. Government's philosophy for private sector ownership and operation of the means of production and distribution. It is hoped that industry will participate in the planning for its future role in space activities and assist the Government towards these ends by financial participation where possible, and by advising the nature and extent of Government support required.

Notwithstanding the clarifying recitals in the negotiated history of the Moon Treaty, well motivated attorneys find the Treaty's wording so equivocal as to conclude that investment by private capital in related space activities is not warranted. This appears to be an overreaction. In light of the clarification in the negotiated history, it is suggested that in the U.S. government's signing the Treaty and in the Senate Resolution of Ratification there be set out an "understanding" of questioned Treaty provisions to accord with the clarification.[63]

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[63]Vienna Convention on the Law of Treaties, arts. 19, 23. The procedure is believed to be substantially as follows. The recital in essence would state: "Subject to the following understanding premised upon the negotiated history of the Treaty:

a. With regard to Article 11-

1) Paragraph 1. The term "common heritage of mankind" derives its meaning solely from its use in this Treaty. As such, it. . . (ect.)

2) Paragraph 3. The insertion of the phrase "or natural resources in place" is a limitation on the recited prohibition of ownership of portions of the surface of the moon; however, such ownership may obtain when the natural resources upon exploitation are no longer "in place."

3) Paragraph 4. Exploration and use of the moon without discrimination includes its exploitation. This interpretation is confirmed by the recital in last sentence of Article 6, paragraph 2.

In light of the U.S.S.R's early and consistent views on the common heritage doctrine until a satisfactory compromise was agreed upon, which restricted to the Treaty the meaning to be derived from that doctrine, and in light of further withdrawn proposals for deferment of exploitation of resources, U.S.S.R. acceptance of the U.S. "understanding" appears probable. With both major space powers in accord, other States should more readily agree, particularly States which had participated in the formation of and consensus on the Treaty at the 1979 COPUOS Meeting and who thus are familiar with its negotiated history.

The Treaty is presently open for signature by all States. Setting forth the U.S. understanding, and the basis thereof, should preclude later criticism based on a reading of the Treaty without benefit of its negotiated history. With acceptance of the U.S. understanding, greater interest of the private sector should exist for participation in space activities involving exploitation of the moon and other celestial bodies.

> Paragraph 5. The undertaking to establish a regime does not defer exploitation. The international regime and the procedures and regulations to govern resources exploitation are subjects for a separate treaty negotiation to be undertaken following review conference (convened pursuant to Article 18) determination that such exploitation is about feasible.

The foregoing is but an example. Following the Senate's extensive hearings more items to be covered and the position justifications will be determined. The Resolution of Ratification on receipt and concurrence by the President would be transmitted to the U.N. Secretary General who would send it to other Treaty signatories and adherents for their acceptance or objection. An objection to preclude entrance of the Treaty into force between the U.S. and the objector must specifically reject the U.S. recital of understanding. If no objection is made within one year, the U.S. understanding is deemed accepted. See art. 20, paras. 4(b) and 5 of the Vienna Convention on the Law of Treaties, *supra* note 42.

THE SPACE SHUTTLE IN PERSPECTIVE +

*S. Neil Hosenball**

Brief Description of the Shuttle

The Space Shuttle flight system is composed of the Orbiter—an external tank and two solid rocket boosters. The Orbiter has a cargo bay in which the Spacelab or other payloads may be carried. The Shuttle may carry propulsion stages or upper stages, which may be used to take satellites from Earth orbit into either synchronous orbits, circular orbits, geostationary orbits or planetary trajectories to one of the outer planets or to the moon.

The Space Shuttle is a reusable launch vehicle. It can deploy satellites and undertake experiments; it can do on-orbit servicing and retrieve payloads. It is only an earth-orbiting vehicle. It can go from an orbit of about 100 nautical miles to about 600 nautical miles above the Earth. It cannot go further into outer space or deep space. It can be used either as a space laboratory with a Spacelab or for other types of experimentation, even without the Spacelab on board. It will be able to carry up to 65,000 lbs. in its 60 x 15 ft. cargo bay. Its use can substantially decrease the cost per flight. For instance, by the use of the Shuttle, the cost of a delta payload used for launching a communications satellite could be reduced to about half the cost.

With this truncated description of what the Shuttle is and what it can do, let me limit my perspective of the Space Shuttle to its commercial aspects.

Charges to Users

One of the concerns of the fairly large number of commercial users of communications satellites (RCA, AT&T, Western Union, INTELSAT) has been that they were charged actual costs. Consequently, they would sometimes receive a bill for additional costs, far exceeding the original estimate—either as a result of inflation, strikes, a lower than predicted launch rate or some other reason causing a price increase. Commercial users prefer to have a fixed price for obvious reasons; future planning and fixing their cost exposure being just two of many good reasons. The Space Shuttle is a considerable improvement on this situation, inasmuch as all standard launch services charges, with the exception of escalation due to inflation, are included in the fixed price. In addition, there is a re-flight guarantee to the effect that if a mission is aborted, it will be flown again for free. In other words, there will not be any charge for the second mission if the abort was not caused through fault of a commercial user. In case of an expendable launch vehicle, if there were a failure for any reason whatsoever, including NASA's fault, one had to buy a new launch.

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+ *Editor's note:* This article the text of which has recently appeared in "The Space Shuttle and the Law", edited by Professor Stephen Gorove is reproduced here with permission and exceptionally, for the reason that it formed an integral part of the Symposium on "Space Law in Perspective".

The user of the Shuttle may get 20% standby discount if the user is willing to go when he is told to go. This is similar to the practice of airlines giving discount on a standby basis. The user may also get discounts on charter flights when they buy the whole payload capacity. The share-user concept is quite evident with respect to the Shuttle.

Schedule of Launches and Reimbursement

Originally, when the Space Shuttle program was first suggested, nobody was concerned about NASA's meeting its schedule. Instead, the concern was whether there would be sufficient payloads to fully utilize the Shuttle's capabilities. It was thought that NASA would probably meet its schedule, just like it met its Apollo schedule. Now there is concern about the delay, since there would be considerable cost-saving for commercial operations, if the Shuttle were used instead of an expendable launch vehicle. It has been estimated that there will be sixteen launches in 1982, seven of which will be NASA launches, while the others will be U.S. commercial, foreign or military launches. In subsequent years, the number of commercial and foreign launches is expected to increase. A significant number of these launches will be reimbursed launches. At the current level of expendables, the U.S. is being reimbursed approximately two to three-hundred million dollars a year, for either vehicles or services that are being rendered for foreign government and U.S. commercial customers.

Kinds of Payload and their Selection

If there is some extra space onboard, some very small self-contained payloads, so-called getaway specials, may be thrown on for a cheap price. However, rather rigid rules apply as to what can be placed in them. Many universities have bought a small self-contained payload for experiments; several groups have bought some for high school students. The Shuttle will enable us to send up such payloads into space relatively cheaply and provide an opportunity to both non-profit and private enterprises to experiment at small cost. The Shuttle is not going to fly souvenirs, coins or things of a similar nature; it will be used for research and the development and manufacture of new products. All kinds of requests have been received. Some people wanted to fly cereal so that they could sell the cereal on the ground as "space" cereal. Not too long ago, a proposal was submitted from a funeral parlor which wanted to spread ashes in space. The request has been turned down. Initially, the Space Shuttle will be used as a research vehicle and to move space application research toward commercial application. But some of the more unusual proposals present some difficult questions. There was a request, for example, from a sculptor who wanted to send up a small package filled with water, which would then be injected into space to form an ice sculpture. In another instance, a musician wanted to go up and play in space to see if it can be done and what effect it might have. There are news broadcasters who want to be the first news broadcasters from space. There are movie producers who want to produce the first movie in space. The most difficult question is who and what should be selected. Some of these requests for the use of the Space Shuttle cannot be rejected lightly.

There has also been a great deal of discussion and research on building assemblies, space stations and space platforms in space. There has been a great deal of discussion

and research about constructing solar power stations in space, converting solar energy into electricity, transmitting it to Earth by microwave or laser and reconverting it on Earth into electricity.

NASA Authority

Insofar as the law is concerned, the most important task with respect to the Shuttle was to determine if there was anything that the Shuttle would do that would be in violation of existing domestic legislation or international treaties and if new domestic legislation was needed to carry out the Shuttle program. More specifically, it had to be determined what authority NASA had under the current Space Act[1] and other applicable statutes and what limitations, if any, might exist that would impact on Space Shuttle operations.

While NASA is a Government agency with a very broad and flexible statute that served us well for over 20 years, we are nonetheless a Government agency whose authority is both granted and limited by statute. NASA cannot, under existing law, run its operation like a commercial operation. NASA is not authorized by statute and recent court decisions to make profit on the services it sells; to set up the normal reserves or revolving funds that industry normally uses to take care of contingencies, risks and the like; or to issue bonds or stock to finance its activities.

For these reasons, NASA assumes no hard contractual obligations for the success or failure of a launch. If something goes wrong with the Shuttle and it has to be brought back or if something went wrong with a payload as a result of something that NASA had done, NASA has no contractual liability for loss or damage to the payload, for loss of revenue, or other consequential damages. There is no guarantee that everything that NASA does will be free of negligence. NASA will use its best efforts, but it does not take on a common carrier type of obligation.

Space Allocation

As to allocation of space on the Shuttle, NASA follows the principle of first-come-first-served. There would be a problem, if one were to auction off space on the Shuttle or allocate it by raising prices. NASA's launch policy, which has been in effect for some time, is based on the principle of nondiscrimination. NASA will not charge anyone more than it charges a domestic commercial concern. This is in line with the provision of the 1967 Outer Space Treaty[2] which states that access to space should be on a nondiscriminatory basis, and if one started auctioning off access to space, the rich nations could buy it and others could not. NASA did not want to decide priorities because if it decided that one commercial customer had priority over another commercial user, it would really have made an economic decision affecting the two entities. Thus, NASA decided that it would follow the first-come-first served principle and not intrude itself into these types of economic decisions. In this connection, the

[1]National Aeronautics and Space Act of 1958, As Amended, and Related Legislation, Pub. L. 85-568, 85th Cong. H.R. 12575 July 29, 1958, 72 Stat. 426, 42 U.S.C. § 2451.

[2][1967] 18 U.S.T. 2410, T.I.A.S. 6347, 610 U.N.T.S. 205 (effective Oct. 10, 1967).

suggestion was made to users that if they wished and if they could avoid antitrust implications, they should consider establishing a user's organization that could make decisions on launch priority.

Who Should Operate the Shuttle?

Last year, the National Academy of Engineering undertook a study to determine what sort of operation the Space Shuttle should be; whether it should be retained in government, in NASA or some other government agency—not necessarily NASA; whether it should be a public corporation following the COMSAT model; or whether it should be totally private enterprise, a stock company that would in effect operate the Space Transportation System for all users—government, foreign or private commercial entities. The Academy has not precluded any of these options. It has suggested that at least for now, the Shuttle ought to be a NASA operation.

Insofar as any restriction on a private company buying a Shuttle is concerned, the Outer Space Treaty of 1967[3] stipulates that all national activities shall be under the authorization and continuing supervision of the government. Thus, there must be a government authorization to launch the Shuttle because of the requirement in the Outer Space Treaty. In addition, there is the problem of financing. The Orbiter, once it goes into production, would cost about $100,000,000. In theory, however, there is nothing to prevent a private company from buying a Shuttle except the aforementioned considerations and the need to use existing NASA and Air Force facilities. I doubt these facilities would be turned over for the exclusive use of a private company without Congressional authorization.

Risk, Liability and Insurance

Turning to problems associated with risk, there is commercial insurance available to cover practically every risk in NASA's launch services contract. There is also a provision in the launch services agreement to the effect that the Government agrees not to hold any user liable for damage to the Orbiter and, in return, the user agrees not to hold any other user or the government liable for damage to his particular payload. Thus there are cross waivers in effect, covenants not to sue, as well as an indemnity if a user fails to flow down this provision to any party who could bring a separate action, including an action based on the right of subrogation. This has been done because of a concern about the capacity in the insurance market to insure such a risk. There was also a concern about the mixture of payloads and the differing value of payloads. For instance, a ten thousand dollar payload may explode, causing damage to a $300,000,000 payload. A university, research institute or small business ordinarily would not carry the kind of product or third-party liability insurance that would be needed and, therefore, could not afford to take the risk of flying on the Shuttle.

The past practice has been that commercial users have gone into the market and insured their satellite. They have insured their spacecraft against damage from any cause, based on its stated value (the cost of the spacecraft and associated launch). When COMSAT took out its first policy, the premium was about 14 percent; more recently the

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[3] *Id.*

premium has come down significantly to about 7 percent. When COMSAT attained its first policy, it had what is called a two-failure deductible; so before you could receive payment on the policy, you had to lose two satellites out of four. This went down to a one-failure deductible policy and then to no deductible at all.

In addition to covering damage to property, the market has been writing loss of revenue insurance, so-called satellite life insurance; so if the satellite stops operating before its anticipated five-year life and loses revenue, you get loss of revenue coverage. Mostly, Lloyds has been involved, but the market has become pretty much an international market with Lloyds participating. When the European Space Agency lost one of its satellites, insurance paid $34,000,000. A more recent loss of an RCA satellite, insured for $70,000,000 with Lloyds, has also been paid.

As to third-party liability insurance, there is a general government policy against the government's buying insurance covering third-party liability risk. Under Section 308a, a recent amendment to the NASA Act[4], NASA has the authority (1) to indemnify (which will take care of the "little" user) and (2) to buy insurance to the extent it is available and needed to protect itself and anybody else flying on the Shuttle. NASA is in the process of issuing regulations implementing this new legislation. In the meantime, NASA requires in its launch services contract with a commercial user or foreign government, that the user provide up to $500,000,000 worth of third-party insurance coverage, or such other amount that may be available, with the U.S. Government being a named insured as well as the particular user. NASA has recently participated in the negotiation of a policy in which the insured is Satellite Business Systems—a partnership of COMSAT, IBM and Aetna Insurance, the United States Government and those prime and subcontractors which the U.S. Government would be required to reimburse for third-party liability losses. There are many provisions in the policy which go beyond the normal commercial aspects of insurance. There is even a provision that any defense based on the sovereign immunity of the United States Government will not be asserted without the express consent of the Government. Thus, the Government could, in a particular situation, waive its sovereign immunity defense under the Federal Tort Claims Act[5]. It also provides for the payment of claims presented under the 1972 Liability Convention[6] and for the U.S. Government to negotiate and control, though in consultation with the underwriters, the settlement of claims.

Insurance availability, third-party liability, property damage or what is called first-party liability and loss of revenue coverage are very important aspects of the ever-expanding commercialization of space. If commercialization is to come about through investment by private enterprise, users will want to spread the risk of loss or liability for damage.

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[4]42 U.S.C. § 2458 (b).

[5]28 U.S.C. § 1346.

[6]Convention of International Liability for Damage Caused by Space Objects, March 29, 1972, [1973] 24 U.S.T. 2389, T.I.A.S. 7762 (effective Oct. 9, 1973).

New Business Opportunities and Joint Endeavors

Until very recently, all of our commercial users of launch services were the satellite communications companies. However, NASA is committed to involve other sectors of U.S. industry in space-based business opportunities as well.

If researchers in virtually every discipline of science and technology knew that within a hundred miles of their laboratories there existed a facility where they could achieve a near-perfect vacuum, zero gravity and an unlimited vantage point from which to view the Earth, we are convinced that they would jump at the chance to use the laboratory in a host of unique experiments—pharmaceuticals, materials processing, electronics, solid state physics, crystal growth, communications, lasers, biology, geological and geophysical exploration and so on. During the 1980's such a laboratory will be available to U.S. industry, only it will not be a hundred miles down the road; it will be a hundred miles overhead, in Earth orbit. That laboratory, of course, is the Space Shuttle and the European-developed Spacelab.

On June 25, 1979, NASA issued Guidelines Regarding Early Usage of Space for Industrial Purposes. Supplementing those broad guidelines, on August 14, 1979, NASA issued Specific Guidelines Regarding Joint Endeavors with U.S. Domestic Concerns in Materials Processing in Space[7]. And on January 25, 1980, NASA entered into the first such joint endeavor with the McDonnell Douglas Astronautics Company. That endeavor, which involves substantial investment by McDonnell Douglas and its associates, will utilize the unique capabilities of the Space Shuttle to develop and demonstrate the technology of continuous-flow electrophoresis under low gravity conditions. NASA will provide free flight time on the Space Shuttle in return for McDonnell Douglas and its associates agreeing at their expense to conduct a three-phase sequential program involving (1) feasibility studies, planning and ground research and development; (2) flight experimentation and technology development; and (3) applications demonstrations in space. In return for McDonnell Douglas promising to make the results of the endeavor available to the United States public on reasonable terms and conditions, NASA agrees to refrain from entering into a similar joint endeavor or international cooperative agreement directly related to the development of commercial devices and processes which would compete with those expected to result from the McDonnell Douglas effort. NASA is not precluded from selling flight time on the Shuttle to any other organization wanting to conduct the same or similar experiments, but it is precluded from providing free flight time for such experiments. Significantly, NASA will not acquire rights in inventions which may be made by McDonnell Douglas or its associates in the course of the joint endeavor, unless McDonnell Douglas fails to exploit the inventions or terminates the agreement or the NASA Administrator determines that an emergency situation exists. At least two additional proposals for joint endeavors with NASA are now being actively considered.

Conclusion

Insurance to reduce the risk, incentives that NASA is willing to make available to U.S. industry, and the demonstrated willingness of industry and the financial

[7]44 Fed. Reg. 47, 650 (1979).

community to invest their funds in space ventures make it clear to me that the new Shuttle capabilities will exponentially increase commercial activities in space during the decade of the eighties. With the year 2000 only 20 years away, the next century may very well see large numbers of people working and living in space, producing new and improved products for those who have to remain here on Earth.

THE AMERICAN BAR ASSOCIATION AND THE 1979 MOON TREATY: THE SEARCH FOR A POSITION

*Carl Q. Christol**

1. Introduction

Professional interest, as reflected in reports produced by concerned sections of the American Bar Association, has been directed toward the UN-sponsored Agreement Governing the Activities of States on the Moon and Other Celestial Bodies of December 5, 1979.[1] The Agreement, generally referred to as the Moon Treaty, is the fifth international space law agreement that has resulted from the rigorous, consensus-based, negotiating process of the UN's Committee on the Peaceful Uses of Outer Space (COPUOS). The first four have entered into force. The United States is a party to each of them.

The Moon Treaty will enter into force following the deposit with the Secretary-General of the United Nations of five ratifications. At the time of this writing the agreement has been signed by Austria, Chile, France, Guatemala, Morocco, The Philippines, and Romania.

The worth of the agreement, which had resulted from a careful assessment at the UN lasting from 1970 down to 1979, and which was considered sufficient to merit the unanimous approval of the General Assembly, has come under scrutiny in the United States. Attracting major attention was the establishment of the principle of the Common Heritage of Mankind (CHM) as a new substantive area of international space law. Thus, Article 11, par. 1 of the agreement provided that "The Moon and its natural resources are the common heritage of mankind, which finds its expression in the provisions of the Agreement and in particular in paragraph 5 of this article."[2]

In the process of writing the Moon Treaty the negotiators recognized that they were introducing a new principle into international space law. Thus, without defining the principle, as it applied to the Moon and to other celestial bodies, and to their natural resources, the agreement identified the substantive elements of the principle. This was done by way of enumerating the purposes to be achieved at a future and unspecified date by a new international legal regime, including appropriate procedures. The formation of the new regime and of the accompanying institutional processes was made dependent on the fact that the exploitation of the foregoing resources was about to

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[1]U.N. Doc. A/34/664, 12 Nov. 1979; 18 *ILM* 1434 (Nov. 1979).

[2]*Ibid.* The negotiating history of this provision, including wide-ranging alternative proposals, and an assessment of its meaning is contained in my "The Common Heritage of Mankind Provision in the 1979 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies," 13 *The Int'l L.* 429 (1980).

become feasible.[3] Thus, Article 11, par. 7 of the agreement indicated that, pursuant to the CHM principle, emphasis was to be placed on the resources of the area. Specifically, the natural resources were to be developed in an orderly and safe manner. The resources were to be managed rationally. Opportunities were to be expanded for the use of the resources. It was also stipulated in par. 7 (d) that one of the main purposes of the regime and procedures was to secure "An equitable sharing by all States Parties in the benefits derived from those resources, whereby the interests and needs of the developing countries, as well as the efforts of those countries which have contributed either directly or indirectly to the exploration of the Moon, shall be given special consideration."[4]

Article 11 was consistent with the terms of Article 1 of 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.[5] That Article, dealing only with the specified areas, and not with their natural resources, provided for the free and equal exploration, use, and exploitation of the given areas. It also provided for free access to all areas of celestial bodies, including the Moon.

As a result of the terms of the foregoing international agreements and their negotiating histories, it has been suggested that the CHM principle is based on the following considerations, and that they will have to be taken into account in its specific implementation. These include (1) the areas, following the *res communis* doctrine applicable to the high seas, are not the subject of appropriation; (2) a system of management is to be installed which would be concerned for environmental protections, for the needs of future generations, and for a sharing of benefits pursuant to the formula of equitability stated in par. 7 (d); (3) the area and its natural resources are to be used for peaceful purposes; and, (4) since, the area and its resources are to be subject to free and equal exploration, use, and exploitation, property rights are not to apply to the area and are to apply only to resources removed from their original "in place" location. This follows the provision of Article 11, par. 3 of the Moon Treaty, which states "Neither the surface nor the subsurface of the Moon, nor any part thereof or natural resources *in place,* shall become the property of any State, international intergovernmental or non-governmental organization, national organization or non-governmental entity or of any natural person."[6] In sum, the CHM provisions of the Moon Treaty are to be implemented through the formation of a future international legal regime pursuant to the foregoing sharing formula so that benefits derived from the resources will go both to States possessing the capabilities of exploitation and also to other States. Until such a regime and the attendant appropriate procedures have been brought into being the traditional *res communis* principle will continue to be operative. The analogy of the freedom of the high seas will apply.

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[3]Christol, "An International Regime, Including Appropriate Procedures, for the Moon: Article 11, Paragraph 5 of the 1979 Moon Treaty," in *Proceedings of the 23rd Colloquium on the Law of Outer Space* 139 (1981).

[4]*Supra* note 1.

[5]18 UST 2410; TIAS 6347; 610 UNTS 205. The Treaty entered into force for the United States on October 10, 1967. It is now binding on about 80 States.

[6]*Supra* note 1.

Following the approval of the agreement by the General Assembly in 1979, a number of assertions were put forward as to its meaning and operational effect. Among these were: (1) that the Treaty contained a moratorium provision that would prevent the exploitation of the Moon and celestial body resources pending the negotiation of the CHM regime; (2) that the agreement contained provisions that would prevent the free-enterprise system from engaging in exploitative activities; (3) that the agreement—as a consequence of a commonality of voting outlooks on the part of the Socialist States and the developing countries—served only the interests of such States; and, (4) that the agreement had departed from the central mandate of the 1967 Principles Treaty, with the result being that States could establish sovereign rights in the areas and resources of the space environment, e.g., outer space, per se, the moon, and other celestial bodies. Concerns such as these, among others, have resulted in academic, political, and professional assessments of the terms and objectives of the proposed treaty. Important studies have been published by the Senate Committee on Commerce, Science, and Transportation.[7] The same committee's Subcommittee on Science, Technology, and Space conducted detailed hearings on the proposed treaty.[8]

Two sections of the American Bar Association, namely the Section of International Law through its Committee on Aerospace Law, and the Section of Natural Resources Law reviewed the proposed agreement in 1980. On April 18, 1980 the Section of International Law affirmatively recommended to the House of Delegates of the American Bar Association that the U.S. Senate be urged to give its advice and consent to the ratification of the agreement subject to four understandings and declarations in the instrument of ratification. In addition to its recommendation the Section of International Law submitted a detailed report in which it analyzed the purposes and provisions of the agreement. The Section affirmed its belief that "the understandings and declarations suggested . . . should help guide and protect the position of the United States in any future negotiation of an international resources regime, and should allay concerns that the United States is directly or indirectly restricting its right to engage in or authorize the use of the natural resources of the Moon, including their commercial or other exploitation."[9]

2. The Initiative of the ABA Section of International Law

The Section of International Law took into account the then existing international law of outer space when it put forward its proposed understandings and declarations. In the first of these the Section called attention to the terms of Articles 1 and 6 of the 1967 Principles Treaty which enable both governmental and non-governmental entities to engage in the free and equal exploration, use, and exploitation of outer space, the

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[7]Senate Committee on Commerce, Science, and Transportation, Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, Parts 1 through 4, 96th Congress, 2nd Session, (1980).

[8]The Moon Treaty, Hearings before the Subcommittee on Science, Technology, and Space of the Senate Committee on Commerce, Science, and Transportation, Serial No. 96-115, 96th Congress, 2nd Session, (1980); cited hereafter as *The Moon Treaty*.

[9]Section of International Law, American Bar Association, Report to the House of Delegates 10 (1980), reprinted in *The Moon Treaty*, *supra*, note 8 at 76-81.

Moon, and other celestial bodies. The first understanding also stated in modified form the understanding attached by the U.S. Senate in 1967 to Article 1 of the Principles Treaty. The Senate had indicated 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."[10] This was converted by the Section in 1980 to read that "It is the understanding of the United States that nothing in this Agreement in any way diminishes or alters the right of the United States to determine how it shares the benefits derived from exploitation by or under the authority of the United States of natural resources of the Moon or other celestial bodies."[11] This proposal was relevant to the proposed Moon Treaty, since it had made reference to benefits derived from natural resources. It was particularly germane since the 1967 Principles Treaty had not made specific reference to natural resources.

In the second of the Section's understandings, specific reference was made to property rights in such natural resources as had been taken into possession. It stipulated that they are "subject to the exclusive control of, and may be considered as the property of, the State Party or other entity responsible for their extraction, removal or utilization."[12] This was designed to focus attention on the right to establish property rights in the resources removed from their "in place" locations. This right had been established in Article 11, par. 3 of the agreement. This paragraph constituted a disavowal of efforts by the Soviet Union during the negotiations to avoid the establishment of property rights in certain aspects of the Moon and its natural resources. The proposed understanding captured both the terms of the agreement and the sense of the negotiating history.[13] The understanding was directed at allaying the concerns that had emerged from allegations concerning restrictions on free-enterprise opportunities in Moon and celestial body activity.

The third Section understanding dealt specifically with the CHM provision of Article 11 of the Treaty. Paragraph 1 provided that "The Moon and its natural resources are the common heritage of mankind, which finds its expression in the provisions of this Agreement and in particular in paragraph 5 of this article."[14] This had been introduced both to establish the principle and also to limit the CHM principle to the Moon and other celestial bodies. Thus, this CHM principle was not to be confused with the law of the Sea negotiations, which in Article 136 of the August 27, 1980 Draft Convention on the Law of the Sea (Informal Text), as well as prior drafts, had made references to a common heritage of mankind principle.[15] Thus, the International Law Section explicitly indicated that the Moon Treaty's reference to the CHM was to be based on the

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[10]Treaty on Outer Space, Executive Rep. No. 8 to Accompany Senate Ex. D., 90th Congress, 1st Session 4 (1967).

[11]*Supra* note 9, at 2.

[12]*Ibid.*

[13]Christol, *supra*, note 2, at 470.

[14]*Supra* note 1.

[15]U.N. Doc. A/CONF.62/WP.10/Rev. 3 (27 August 1980).

provisions of the Moon Treaty "and not on the use or interpretation of that term in any other context."[16]

The Section, in order to prevent charges that the terms of the Moon Treaty might be in conflict with Articles 1 and 2 of the 1967 Principles Treaty, stated that recognition of the CHM principle also constituted recognition "(i) that all States have equal rights to explore and use the Moon and its natural resources, and (ii) that no State or other entity has an exclusive right of ownership, property or appropriation over the Moon, over any area of the surface or subsurface of the Moon, or over its natural resources in place."[17] In this understanding the Section also took account of the provisions of Articles 12 and 15 of the Treaty. Following the language of these Articles, and in keeping with the documented, negotiating history of the treaty, the Section made it a matter of record that these provisions meant that parties "retain exclusive jurisdiction and control over their facilities, stations and installations on the Moon, and that other States Parties are obligated to avoid interference with normal operations of such facilities."[18]

The extent to which the Section considered it necessary to formulate the foregoing understanding was indicative of its concern with certain observations that had been circulated respecting the operation of the free-enterprise system in the exploitation of natural resources. Since the intent and purpose of the Moon Treaty demonstrably was written in such a manner as to allow for the application of the free-enterprise system by private entrepreneurs, this understanding was based upon a superabundance of caution on the part of the Section.

In its final understanding the International Law Section placed emphasis on the future exploitation of the natural resources of the Moon and other celestial bodies. In this understanding the Section endeavored to make it clear that the proposed treaty was dealing with two time periods. The first, or pre-Article 11, par. 5 time period, would allow for the application of the *res communis* principle to the exploitation of the natural resources of the Moon. Pending the establishment of such new legal regime, with its new appropriate procedures, the Section made it clear that until the indicated eventualities had come about that there would be no prejudice to "the existing right of the United States to exploit or authorize the exploitation of those natural resources."[19] In this connection the Section made specific the previously well-established fact that "No moratorium on such exploitation is intended or required by this Agreement."[20] The Section also considered it appropriate to specify that, while the conduct of the United States would have to be compatible with the terms of Article 6, par. 2 and Article 11, par. 7, that the United States should reserve "to itself the right and authority

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[16]*Supra* note 9, at 2.

[17]*Ibid.*

[18]*Ibid.*

[19]*Ibid.*

[20]*Ibid.*

to determine the standards for such compatibility unless and until the United States becomes a party to a future resources exploitation regime."[21]

The second time period related to the negotiation of the regime rather than to the fact of exploitation pending its creation. In this the Section agreed upon an explicit caveat that had been well documented during the negotiating history of the proposed treaty. The caveat stated that, in accepting the obligation to engage in good faith negotiations for a future regime, the United States was not agreeing to "any particular provisions which may be included in such a regime; nor does it constitute an obligation to become a Party to such a regime regardless of its contents."[22] Although it would appear to be self-evident that the United States would possess such an option even in the absense of the proposed understanding, the fact that it was put forward was some evidence of the manifest concern that criticisms of the treaty-making process might have gained some support.

Nonetheless, in the minds of some observers the use of well-intentioned and well-considered understandings and declarations contained some risks. Even where the process is legitimately employed, it invites other States to file their own special interpretations. This can produce a splintering effect with a resultant loss of the general agreement evidenced in the terms of the agreement and in its negotiating history.

3. The Concerns of the Section of Natural Resources Law

In this case the position taken by the Section of International Law undoubtedly served a useful purpose. A record was made, which was to be examined critically by the Section of Natural Resources Law. That Section, which has long been identified with a concern for the exploitation of minerals, including the manganese nodules located on the deep seabed and ocean floor, prepared a report, with recommendations, for the House of Delegates of the American Bar Association.[23] In the view of the Natural Resources Section the Common Heritage of Mankind principle, as set forth in Article 136 of the 1980 Draft Convention on the Law of the Sea (Informal Text) and in other provisions of that Text designed to secure the implementation of the principle, would be prejudicial to U.S. mining interests and to the general well-being of the United States.

The Natural Resources Section suggested three risks in accepting the Moon Treaty. First, it was urged that the acceptance of the CHM principle would prejudice the negotiations for a Law of the Sea convention as well as Antarctica. Second, it was argued that acceptance would create substantially increased pressures on the United States "to accept a 'celestial bodies' international regime which would control U.S. space investigations."[24] Thirdly, it was contended that it was readily foreseeable that a claim

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[21]*Ibid.*

[22]*Ibid.*

[23]Report of the Section of Natural Resources With Recommendation to The American Bar Association House of Delegates, in *The Moon Treaty, supra,* note 8, at 82.

[24]*Id.* at 85.

would arise to the effect that "a moratorium on exploration and exploitation of space resources is inherent in the Moon Treaty, pending establishment of machinery to govern such activities under the control of the international regime."[25] Thus, the Section urged that any decision on the Moon Treaty should be delayed because of the risks involved.[26]

4. The 1981 Joint Recommendation of the Two Sections

The views of the two Sections, while not consistent, proved to be reconcilable. In May 1981, following consultations, the Section of International Law, under the chairmanship of Mr. L. L. Brinsmade, and the Section of Natural Resources Law, under the chairmanship of Mr. J. C. Muys, issued a joint recommendation. The two Sections recommended that the ABA House of Delegates adopt a resolution favoring the signature and ratification of the Moon Treaty.[27]

In arriving at their joint recommendation the two Sections had been able to consider highly relevant materials gathered by the Senate Committee on Commerce, Science, and Transportation and the Hearings conducted by the latter's Subcommittee on Science, Technology, and Space.[28] The efforts of the two Sections were eased by focusing on the exploitation of the natural resources of the Moon and other celestial bodies. Section representatives accepted the fact that the CHM principle of the Moon Treaty was to be applicable to the Moon and to its natural resources. In this context the principle was to be separated from that contained in the current Draft Convention on the Law of the Sea (Informal Text). Further, the representatives were in agreement that the issue was sufficiently important for the United States to assert its views as to the ultimate meaning of the agreement, rather than being reactive to such interpretations as might be forthcoming from other States. Thus, certain policy statements were set forth in the preambulatory portion of the joint recommendation.

In an exemplary way the recommendation associated the peaceful uses of the entire space environment with the rule of law and with the national interest of the United States. It accepted the fact that existing international space law authorizes the exploration, use, and exploitation of the space environment. Operating on that correct premise, it was concluded that the United States, and presumably other States equally bound by presently existing international law, possessed "the unilateral right to undertake both scientific exploration and commercial development and use of natural resources found in outer space."[29] The recommendation also took account of the

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[25]*Ibid.*

[26]See, for example, the testimony of L.S. Ratiner and Congressman J. Breaux, in *International Space Activities,* 1979, Hearings before the Subcommittee on Space Science and Applications of the House Committee on Science and Technology, 96th Congress, 1st Session 109 and 142 (1979); See also the testimony of L.S. Ratiner and M.A. Dubs, in *The Moon Treaty, supra* note 8, at 105 and 139.

[27]American Bar Association, Report to the House of Delegates 1 (1981), See Appendix. Following their agreement the two sections referred their recommendation and the attached report to other relevant Sections so that the matter might come before the House of Delegates in August, 1981.

[28]*Supra* notes 7 and 8.

[29]*Supra* note 27, at 1.

legitimate interests of the United States and other members of the world community in the space environment. Included in this ennumeration were voluntary international cooperation, arms control constraints on the use of the space environment consistent with the security of the United States, protection of the natural environment of the area, and the safeguarding of the life and health of persons located in the area.

In order to protect the national interests of the United States, it was recommended that the ratification of the proposed treaty should include express declarations consistent with six principles. When compared with the four principles put forward in 1980 by the Section of International Law as understandings and declarations, it is clear that the 1981 recommendation is in many critical respects the same as the previous one of that Section. The six principles, namely (a) through (f), were arrived at through separating the Section of International Law's first recommendation of 1980 into two parts and the fourth recommendation of 1980 into two parts.

Aside from form the 1981 statement made some modest drafting changes, such as substituting for the term "understanding" in 1980 for the expression "position" in 1981. The 1981 statement in principle (a) substituted the expression "develop and use" for "develop and exploit" as these terms applied to commercial or other purposes. However, the 1981 statement added to the foregoing "and no constraint is accepted by this ratification" to the existing rights of exploration, development, and utilization of Moon and celestial body resources for commercial or other purposes.[30]

Principle (b) of 1981 retained the language of the second sentence of the first understanding of 1980, except that it adopted the expression "existing right" of the United States "to determine unilaterally how it shares the benefits derived from development and use by or under the authority of the United States of natural resources of the Moon or other celestial bodies."[31] Thus, the 1981 version used "development and use" rather than "exploitation."[32]

Principle (c) of 1981 followed the thesis ennunciated in the second understanding of 1980. However, the 1981 version strengthened the preceeding formulation. It made reference to natural resources "extracted or used" by a party to the agreement in lieu of "resources extracted, removed or actually utilized." The 1981 version stated that such resources "are subject to the exclusive control of, and shall be the property of the State Party or other authorized entity responsible for their extraction or use."[33] This replaced the 1980 clause reading "are subject to the exclusive control of, and may be considered as the property of, the State Party or other entity responsible for their extraction, removal or utilization."[34]

Principle (c) of 1981 also contained the sentence reading: "In this context, it is the position of the United States that Articles XII and XV of this Agreement preserve the

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[30]*Supra* note 27, at 2.

[31]*Ibid.*

[32]*Ibid.*

[33]*Ibid.*

[34]*Supra* note 9, at 2.

existing right of States Parties to retain exclusive jurisdiction and control over their facilities, stations and installations on the Moon and other celestial bodies, and that other States Parties are obligated to avoid interference with normal operations of such facilities."[35] This was a modest revision of the third sentence in the third understanding of 1980. The principal differences were that the 1981 joint recommendation indicated that its terms were to be treated as "the position of the United States."[36] This replaced the expression that "the United States notes that."[37] The 1981 statement made reference to the preservation of "the existing right" of the United States. This language had not been used in 1980, although both versions had made reference to Articles 12 and 15 of the treaty.

Principle (d) of 1981, like understanding 3 of 1980, took into account the CHM principle. Substantial changes were made in 1981. The 1981 version did not repeat the 1980 declaration that "the meaning of the term 'common heritage of mankind' is to be based on the provisions of this Agreement, and not on the use or interpretation of that term in any other context."[38] Thus, the non-reference in 1981 to the exact terms of the agreement can be explained as avoiding the obvious.

Principle (d) of 1981 has advanced a new and very restrictive view as to the substantive content of the CHM principle. Undoubtedly this new approach will add complications to an already complex situation. This can be best portrayed by reciting the terms of the 1980 understanding. In 1980 the Section of International law suggested as an understanding that "Recognition by the United States that the Moon and its natural resources are the common heritage of all mankind constitutes recognition (i) that all States have equal rights to explore and use the Moon and its natural resources, and (ii) that no State or other entity has an exclusive right of ownership, property or appropriation over the Moon, over any area of the surface or subsurface of the Moon, or over its natural resources in place."[39] This language, which was consistent with the provisions of the Moon Treaty and with its negotiating history, called attention to some of the consequences of the CHM principle. The proposed understanding of the Section of International Law signaled the foregoing characteristics of the principle as subjects of special recognition, but did not endeavor to restrict the CHM principle only to the identified characteristics.

The 1981 proposed principles of the two sections drastically modified the original approach of the Section of International Law. The joint statement accepted the previously identified substantive aspects of the CHM principle, but suggested that recognition by the United States that the Moon and its natural resources are the CHM would be "limited" to the specified illustrations.[40] Further, the joint statement rejected

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[35]*Supra* note 27, at 2.

[36]*Ibid.*

[37]*Supra* note 9, at 2.

[38]*Ibid.*

[39]*Ibid.*

[40]*Supra* note 27, at 2.

the reference made by the Section of International Law to "in place" natural resources. The joint statement substituted for the "in place" qualification of natural resources the following: "natural resources which have not been, or are not actually in the process of being, extracted or used by actual development activities on the Moon."[41]

The proposed principle (d) was a major departure from the terms of Article 11 of the Moon Treaty. In rejecting the "in place" terminology of Article 11, par. 3 the proposed principle would not only repudiate a major contribution made by the United States in the drafting of the treaty. It would also introduce terminology, namely, "natural resources which have not been, or are not actually in the process of being, extracted or used by actual development activities on the Moon,"[42] which possesses no known pedigree and undoubtedly would offer no guidance to whatever goals were intended to be served by such language. Although the joint statement contains a section entitled "Report," which deals with the indicated principles, the report offers no explanation or interpretation of the quoted language. Presumably the foregoing language was introduced because, according to the joint statement, "the negotiating record shows that some countries take the term 'common heritage' to mean that they have some form of right to control or extract benefits from the activities of countries which do undertake the burdens and risks of the exploration and use of outer space."[43] Apparently operating on this premise, the joint statement called attention to the possible impact of such expectations on the early exploitative activities of those States possessing such capabilities.

This outlook appears to have been based on a fundamental misunderstanding of the terms of the Moon Treaty and the record made during its negotiation. Factually it is clear that at the present time the international legal regime for such natural resources is one of *res communis.* This means that there is no present limitation on the free and equal explanation, use, and exploration, of such resources. Only at a future date when it has been demonstrated that there are valid prospects for large-scale exploitation will it be necessary to proceed, according to Article 11, par. 5 of the agreement, to put into place the international legal regime that would secure the practical implementation of the CHM principle. In arriving at such a legal regime, and in putting the CHM principle into effect, it will be necessary to achieve the goal, among others specified in Article 11, par. 7 of "an equitable sharing by all States Parties in the benefits derived from those resources, whereby the interests and needs of the developing countries, as well as the efforts of those countries which have contributed either directly or indirectly to the exploration of the Moon, shall be given special consideration."[44] This heavily bargained provision contains the specific formula for the future sharing of benefits on an equitable, not equal, basis.[45] The presence of this formula will impose well-understood

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[41]*Ibid.*

[42]*Ibid.*

[43]*Id.* at 5.

[44]Article 11, par. 7 (d) of the Moon Treaty, *Supra,* note 1.

[45]C. Q. Christol, *supra,* note 2, at 473.

limitations on claims which might possibly be put forward by non-resource States having an interest in either controlling or extracting benefits from the operational achievements of countries such as the United States. It also appeared from the language of the Report of the two Sections that a concern continued whether the specific language of Article 11, par. 1 of the agreement had conclusively established a distinction between CHM regimes for the space environment and for the ocean. This lingering doubt is regrettable, since Article 11, par. 1 in clear and uncertain terms, as reflected by overwhelming evidence during the recorded negotiations, separated the CHM principles applicable to the Moon and its natural resources from those of the ocean. Further, the joint statement expressed concern over the possibility of confusing the "implementation procedures" of the two agreements.[46] Again, this observation does not accurately reflect the fact that the 1980 Draft Convention on the Law of the Sea (Informal Text) makes detailed references to such procedures, whereas the Moon Treaty merely prescribes that at some future date a conference may be assembled to spell out the appropriate legal regime and appropriate procedures.[47]

Principle (e) of the joint recommendation borrowed heavily on the fourth understanding of the Section of International Law. Both stressed that no moratorium was intended or required by the agreement. The International Law Section applied this to "exploitation," while the joint recommendation stated that there should be no moratorium "on the commercial or other exploration, development and use of the natural resources of the Moon or other celestial body."[48] The joint statement concentrated more heavily on the development and use of the natural resources of the Moon and other celestial bodies than had the International Law Section. The joint statement, consistently with the International Law Section's 1980 understanding, acknowledged the duty of parties to act in a manner compatible with Articles 6 (2) and 11(7). The joint statement followed the understanding of the International Law Section in prescribing compatible conduct. It now reads: "However, the United States reserves to itself the right and authority to determine the standards for such compatibility unless and until the United States becomes a party to a future resources regime."[49] The acceptance of the terms of Article 11, par. 7 in the foregoing principle will necessitate a further clarification of the joint statement. The apparently unqualified acceptance of all of the CHM criteria identified in that paragraph will have to be examined for consistency in the light of the limited recognition set out in principle (d) as mentioned above.

The final joint principle (f) restated in a slightly more restrictive fashion the 1980 understanding put forward by the Section of International Law. As agreed to in 1981, the principle reads: "Acceptance by the United States of the obligation to join in good faith negotiation for creation of a future resources regime in no way constitutes acceptance of any particular provisions or proposed provisions which may be included in

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[46]*Supra* note 27, at 6.

[47]*Supra* note 3, at 139.

[48]*Supra* note 27, at 3.

[49]*Supra* note 27, at 3.

an agreement creating and controlling such a regime; nor does it constitute any obligation or commitment to become a Party to such a regime regardless of the contents of any such agreement."[50]

The Section of International Law had called for an "exploitation" regime. It had not made reference to "proposed provisions." The final principle by referring to a "future resources regime" identified the fact that the significant debate over the terms of the proposed treaty had related to the use of natural resources. Thus, the joint report of the two sections had focused on the issues raised by the provisions of the agreement dealing with that subject.

5. Conclusion

In appraising the product of the joint statement it is evident that both broad and specific considerations must be weighed. At the present time in the United States, as well as in some other countries, there is an increasing tendency to attach reservations or understandings to proposed international agreements. This tendency weakens the international legislative process in the sense that the end product is not allowed to become a consistent and coherent whole. Special interests that have not been able to prevail at the international bargaining table seek to advance their self-serving interests in the legislative halls of nations. Such understandings may produce a victory for manipulative skills rather than for the national interest. The adoption of understandings may be precedent setting. Many States may wish to reserve certain determinations to their unilateral judgments. In highly complex international agreements the prospects for reservations, particularly when identified with influential, single-issue constituencies, may result in an almost unfathomable network of international agreements. Thus, in principle, from the strategic and political approach to general international order, it is desirable to keep special reservations, interpretations, and understandings to a minimum.

From the legal point of view it is well recognized that if a State files an "understanding," when it ratifies an international agreement, that this constitutes an interpretation of treaty terms. A "declaration" constitutes a national statement of policy. When such qualifications relate to the international application of the agreement, such formal statements become binding in international law between the United States and those States which either accept or do not object to the indicated national position. This has been applied to the proposed Moon Treaty, as follows: "So, for example, any U.S. understandings on the meaning of 'common heritage,' 'equitable sharing,' 'in place,' the existence (or not) of a moratorium, or any other subject related to the international application of the Moon Treaty, 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."[51]

In the light of the legal consequences flowing from declarations and understandings attached by States to international agreements, it is clear that their

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[50]*Ibid.*

[51]A. W. Rovine, Letter to R. Stowe, in *The Moon Treaty*, *supra* note 8, at 82.

terms should both serve the national interest and be at least as clearly drafted as the terms of the basic international agreement to which they are to be appended. To the extent that the separate proposals of the Section of International Law and the Section of Natural Resources Law and the joint proposal of the two Sections merely reconfirm the express terms of the Moon Treaty, or can be legitimately supported from the negotiating history of the agreement, these proposals are acceptable. They may be redundant, but in the interest of abundant caution, they are not objectionable. However, the terms of the proposed principle (d) of the May 1981 Recommendation of the two Sections to the House of Delegates constitutes, in its efforts to give to the CHM principle a limited meaning, a rewriting of the terms of Article 11 of the 1979 treaty. The Report of the two Sections does not provide a satisfactory explanation for endeavoring to effect this major change. It did not provide a substantive assessment of the meaning to be attributed to its terms.

It has not been demonstrated that the national interest of the United States would be served by the proposed principle. The principle contains ambiguities. No reference point was provided whereby the meaning of the terms nor the special interests sought to be served could be validated. Further, it was inconsistent with the terms of the principle (e), which accepted the fact that signatories will be obligated to conform their conduct to the terms of the agreement, and in particular to the critical terms of Article 11, par. 7. Finally, from the perspective both of the development of the rule of law in international relations and of the legitimate interests of the United States, a considerable amount of caution is required in the formulation and use of understandings and declarations to international agreements. Perhaps the Association's House of Delegates will be able to obtain a clarification of the joint recommendation received by it from the two Sections, and in particular the meaning to be attributed to proposed principle (d). In any event it is to be expected that the members of the Senate Committee on Foreign Relations will take into due account any communication it may receive from the American Bar Association on the subject.

Although this analysis of the joint efforts of the two Sections to advance the national interest, as perceived by their various constituencies, has raised some questions concerning the validity of the indicated perceptions, one fact remains. The two Sections, subject to their respective outlooks, now support the signature of the Moon Treaty and its ultimate ratification. Unless the United States becomes a party to the agreement, it will not be a participant in the negotiation of the future international legal regime and appropriate procedures respecting the disposition of the natural resources of the Moon and other celestial bodies.

APPENDIX

AMERICAN BAR ASSOCIATION REPORT TO THE HOUSE OF DELEGATES (May 1981)

RECOMMENDATION

The American Bar Association Section of International Law and Section of Natural Resources Law recommend the following resolution for adoption by the House of Delegates of the American Bar Association:

BE IT RESOLVED that the American Bar Association

Believes that the content of international law governing the peaceful uses of outer space, including the Moon and other celestial bodies, is a matter of substantial importance to the national interests of the United States;

Believes that the United States should preserve its rights under existing international law to undertake national exploration and use of outer space, including the unilateral right to undertake both scientific exploration and commercial development and use of natural resources found in outer space; and

Believes that encouragement of voluntary international cooperation in outer space, arms control constraints on the use of outer space consistent with the security of the United States, protection of the environment in outer space, and safeguarding of life and health of persons in outer space, are legitimate interests of the United States and of the international community.

BE IT ALSO RESOLVED, therefore,

That the American Bar Association favors the signature and ratification by the United States of the "Agreement Governing the Activities of States on the Moon and Other Celestial Bodies" on the explicit condition that the United States Signature and Instrument of Ratification be subject to and include express Declarations consistent with the following principles:

"(a) It is the position of the United States that no provision in this Agreement constrains the existing right of governmental or authorized non-governmental entities to explore and use the resources of the Moon or other celestial body, including the right to develop and use these resources for commercial or other purposes, and no such constraint is accepted by this ratification.

"(b) It is the position of the United States that nothing in this Agreement in any way diminishes or alters the existing right of the United States to determine unilaterally how it shares the benefits derived from development and use by or under the authority of the United States of natural resources of the Moon or other celestial bodies;

"(c) Natural resources extracted or used by or under the authority of a State Party to this Agreement are subject to the exclusive control of, and shall be the property of the State Party or other authorized entity responsible for their extraction or use. In this context, it is the position of the United States that Articles XII and XV of this Agreement preserve the existing right of States Parties to retain exclusive jurisdiction and control over their facilities, stations and installations on the Moon and other celestial bodies, and that other States Parties are obligated to avoid interference with normal operations of such facilities;

"(d) Recognition by the United States that the Moon and its natural resources are the common heritage of all mankind is limited to recognition (i) that all States have the rights to explore and use the Moon and its natural resources, and (ii) that no State or other entity has an exclusive right of ownership over the Moon, over any area of the surface or subsurface of the Moon, or over its natural resources which have not been, or are not actually in the process of being, extracted or used by actual development activities on the Moon.

"(e) It is the position of the United States that no moratorium on the commercial or other exploration, development and use of the natural resources of the Moon or other celestial body is intended or required by this Agreement. The United States recognizes that, in the development and use of natural resources on the Moon, States Parties to this Agreement are obligated to act in a manner compatible with the provisions of Article VI (2) and the purposes specified in Article XI (7). However, the United States reserves to itself the right and authority to determine the standards for such compatibility unless and until the United States becomes a party to a future resources regime.

"(f) Acceptance by the United States of the obligation to join in good faith negotiation for creation of a future resources regime in no way constitutes acceptance of any particular provisions or proposed provisions which may be included in an agreement creating and controlling such a regime; nor does it constitute any obligation or commitment to become a Party to such a regime regardless of the contents of any such agreement."

MARITIME AND SPACE LAW, COMPARISONS AND CONTRASTS (AN OCEANIC VIEW OF SPACE TRANSPORT)

Hamilton DeSaussure *

Welcome to the new age of outer space. President Carter has stated that the advent of the shuttle will mark the second era in outer space development.[1] It is very likely that new transportation systems will accelerate manned activity in this new domain at a geometric rate.

Few realized, when the first Echo satellites were launched in the early sixties, the dramatic way in which communications satellites would fill the skies.[2] Nor did they realize how crowded the geostationary orbit would become and how great the need would be for international regulation. The first satellite to operate in geostationary orbit was Syncom 2, which was launched in 1963. Between one hundred and ten and one hundred and twenty satellites now occupy that orbit. From one-quarter to one-half of them are functioning.[3] A recent NASA study concluded that by the year 2000 there would be a tenfold increase in the international demand for communications satellite circuits.[4]

The emergence of a transportation system in space, particularly a reusable system, will promote the same exponential growth in the carriage of cargo, and in human activity. How will it grow? Will it be by each nation regulating its own transport systems independently, by commonly agreed upon standards and practices, or by a new international agreement regulating space transportation?

The answer lies partially in the degree to which the most technologically advanced states believe it to their advantage to work out internationally accepted practices for their space operations. The U.S. will have the Space Shuttle, the USSR their Salyut-Soyuz-Progress system, and France has Ariane. The Soviets are reported to be planning a reusable spacecraft.[5] China and Japan are trying to develop more sophisticated launch systems.[6] The answer also lies in how much priority the U.N. Committee on Peaceful Uses of Outer Space (COPUOS) assigns to the formulation of an international regime for space transportation. The subject of space transportation systems was an agenda item at the most recent session of the Scientific and Technical Subcommittee, but there was

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[1]Press, "U.S. Space Policy—A Framework for the 1980's," 35 Astronautics and Aeronautics 34 (1979).

[2]*See* Lay and Taubenfeld, The Law Relating to Activities of Man in Space 109-121 (1970).

[3]This is the estimate of Dr. Lubos Perek, former Chief of the Outer Space Affairs Division.

[4]N.Y. Times, Mar. 24, 1980, § D, at 1.

[5]Aviation Week and Space Technology, Jan. 8, 1979, p. 11; Feb. 18, 1980, p. 25.

[6]See U.N. Secretariat Report, International Implications of New Space Transporation Systems 7, 8 (Aug. 16, 1979).

no substantive discussion. The subject was not on the agenda of the recent session of the Legal Subcommittee.

A current report prepared by the International Aeronautical Federation at the request of the Scientific and Technical Subcommittee states:

". . . it is conceivable that with the projected growth in both launches and the population and size of orbiting satellites there will come a time when the probability of interference with spacecraft performance, and possibly even physical collision, may become high enough to require consideration [of a global traffic control system]."

This, in my view, is most certainly an understatement. It is not only conceivable, but inevitable. The only issue subject to doubt is as to the timing.[7]

Whether a space transport regime takes shape through unilateral practice, concordant national rules, or multilateral treaty, the maritime and aviation regimes for international carriage are important references. Commerce at sea and in the air space has flourished by virtue of stable, internationally accepted rules, which regulate navigation. The purpose of this paper is to examine a few of the more important aspects of the maritime analogy for their applicability to space transport.

Status of the Instrumentality

None of the existing multilateral treaties regulating the use and exploration of outer space provide any definition of a spacecraft or a space vehicle. To my knowledge no bilateral treaty does. A recent amendment to the NASA Act defines *space vehicle* as "an object intended for launch, launched or assembled in outer space, including the Space Shuttle and other components of a space transportation system, together with related equipment, devices, components and parts."[8] This definition seems broad enough to cover all space objects contemplated by the Outer Space Treaty.

The terms *spacecraft* and *space vehicle* seem to be used interchangeably in the Outer Space Treaty and in the Astronaut Agreement, and frequently refer to space objects which carry personnel.[9] The Liability and Registration Conventions refer to neither spacecraft nor space vehicle, only space objects and launch vehicles.[10] A great deal of confusion exists as to the exact meaning of the two underscored terms. The former Chief of the Outer Space Affairs Division, Dr. Lubos Perek, has stated that in technical literature, the terms *spacecraft, space vehicle,* and *space object* all mean the

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[7]*Id.* at 18.

[8]Pub. L. No. 96-48, § 308 (f), 93 Stat. 349; 42 USC 2458 b.

[9]Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Celestial Bodies (hereinafter Outer Space Treaty), Jan. 27, 1967, [1967] 18 U.S.T. 2410, T.I.A.S. 6347, 610 U.N.T.S. 205, Art. 5 (effective Oct. 10, 1967); Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (hereinafter Rescue and Return Agreement) April 22, 1968. [1969] 19 U.S.T. 7570, T.I.A.S. 6599, 672 U.N.T.S. 119, Art. 1-4 (effective Dec. 3, 1968).

[10]Convention on the International Liability for Damage Caused by Space Objects (hereinafter "Liability Convention") March 29, 1972 [1973] 24 U.S.T. 2389 T.I.A.S. 7762 (effective Oct. 9, 1973); Convention on Registration of Objects Launched into Outer Space (hereinafter "Registration Convention"), January 14, 1975, [1978] 28 U.S.T. 695, T.I.A.S. 8480 (effective Sept. 15, 1976).

same thing.[11] This is supported by the McGraw-Hill Dictionary of Scientific and Technical Terms. It defines *spacecraft* as "devices manned and unmanned which are designed to be placed into an orbit about the earth or into a trajectory to another celestial body." (No definition is given in the dictionary for *space vehicle*.)

There has always been a need accurately to define aircraft and ships and to distinguish them from other objects which transit or occupy their respective spheres. A similar need will emerge to define those spacecraft used for transport and to distinguish them from other space objects.

The International Regulations for Preventing Collisions at Sea define vessels to include, "every description of water craft, including non-displacement craft and seaplanes, used or capable of being used as a *means of transportation* on water"[12] [emphasis added]. The INMARSAT Agreement defines the term *ship* as meaning "a vessel of any type operating in the marine environment (including inter alia) hydrofoil boats, air-cushion vehicles, submersibles, floating craft and platforms not permanently moored."[13]

It seems that as space travel grows, we will need to establish a common definition of transport spacecraft or space vehicles. That is, spacecraft used primarily to carry goods or personnel from one place to another. It will also be necessary to distinguish them legally from other varieties of space objects. The key to defining the spacecraft for transport is navigability. Does it have the *primary* function of transportation? Is it designed basically for space flight rather than parking in a particular orbit? The fact that many satellites have internal rocket propulsion enabling ground controllers to reposition them in space does not endow them with navigability. Communications, remote sensing, weather, and reconnaissance satellites are not designed or intended for navigation in space. They carry only sufficient fuel to reach the desired orbit and perform their mission. INTELSAT satellites have been recently supplied just enough extra fuel to kick them out of the geostationary orbit at the end of their useful life. A true navigable craft however has enough fuel to transverse space and return to a particular place or orbit.

Navigate has been defined as steering or directing a ship or aircraft.[14] Of all the space objects, it will be the spacecraft for the transport that most nearly resembles ships and aircraft. How should they be described to differentiate them from other space objects? Webster's dictionary defines *spaceship* as "a rocket propelled vehicle for 'travel' in outer space."[15] One might have preferred a definition which substituted the word *transport* for the word *travel*. It is broader. Transport clearly embraces cargo as well as human beings. If one adopts the test of navigability as described above, then a spaceship could be manned or unmanned. The U.S. Space Shuttle clearly qualifies as a

[11]Interview with Dr. Perek, New York, New York, March 27, 1980.

[12]Convention on the International Regulations for Preventing Collisions at Sea (Oct. 20, 1972) T.I.A.S. 8587, Rule 3.

[13]Convention on the International Maritime Satellite Organization, INMARSAT, July 7, 1979 [1979] T.I.A.S. 9605, Art. 1.

[14]Webster's New World Dictionary 948 (2nd ed. 1974).

[15]*Id.* at 1364.

spaceship. So, I submit, do the unmanned transport orbiters being developed by the Soviet Union, Japan, and the European Space Agency.

Once having defined the spacecraft for transport as a spaceship, its classification according to ownership and use becomes important. At sea, different rights and responsibilities flow from a ship's legal characterization. There are warships, other governmental vessels (with a subclassification depending on commercial or public use) and private merchant vessels. At the highest end of the scale is the warship. It enjoys complete sovereign immunity from foreign jurisdiction and has certain extraordinary rights on the high seas. Other governmental ships used for public purposes also have sovereign immunity, but not the special rights of warships. In most states, governmental ships used for private purposes no longer have immunity and, of course, neither do private merchant vessels. It has been necessary to classify vessels in order that all who use the high seas, or participate in maritime activity, understand the respective rights and duties of each type of vessel.[16]

The dawn of the new space transport era will bring a similar need to classify spaceships. The latest draft of the Law of the Sea negotiating text defines a warship as one bearing distinctive marks, commanded by a commissioned officer, in the service registry, and with a crew subject to military discipline.[17] A recent report indicates that out of a total of thirty-nine U.S. shuttle missions scheduled through September 1984, five are dedicated military missions.[18]

As the capabilities of the shuttle are demonstrated through experience, this is probably an underestimate of both the total number and the number of military missions. Should spaceships from the very outset be separately classified according to mission? In my view the answer is yes. Unlike other space objects, spaceships are instrumentalities of navigation. They are capable of a wide variety of tasks including military ones. Those ships operated by the military for military purposes, like their counterparts at sea and in the airspace, need particular identification. Following along the lines of the Law of the Sea draft, military spaceships should be defined as those which are under military control and whose ground controller or space crew are subject to military discipline.

At the initial stage of development, the spaceship will be an experimental vehicle, serving predominantly science, exploration and national security. As it begins to achieve economies that make it commercially useful for industry and for non-launch states, the spaceship will become an instrument of trade and commerce. It is interesting to note that under the U.S. Sovereign Immunities Act, a foreign state is not immune from U.S. jurisdiction in admiralty actions to enforce maritime liens against governmental vessels or cargoes used in commercial activity.[19] However, U.S. public vessels may not be

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[16]For a general discussion of the legal regime of warships and merchant ships, *see* Chapters VII and VIII, Colombos, International Law of the Sea 259, 285 (6th ed. 1957).

[17]Art. 29, Revised Informal Composite Negotiating Text for the Eighth Session, United Nations Conference on the Law of the Sea, March 19-27, 1979. The text is in 18 Int'l. Legal Materials 686, 709 (1979).

[18]Aviation Week and Space Technology, Mar. 31, 1980, pp. 54-55.

[19]Foreign Sovereign Immunities Act of 1976, 28 U.S.C. 1605(b). Under the Public Vessels Act, however, no lien may be created against any public vessel of the U.S. 46 U.S.C. 781, 788. In some foreign states, U.S. public vessels used for commercial activity may be subject to a libel action.