
David Everett Marko
Starkman & Magolnick, P.A.

Follow this and additional works at: https://uknowledge.uky.edu/jnrel

Part of the Air and Space Law Commons

Recommended Citation

This Article is brought to you for free and open access by the Law Journals at UKnowledge. It has been accepted for inclusion in Journal of Natural Resources & Environmental Law by an authorized editor of UKnowledge. For more information, please contact UKnowledge@lsv.uky.edu.

DAVID EVERETT MARKO*

INTRODUCTION

A few thousand miles beyond our little planet, there are enough natural resources to "support a civilization many thousand times larger than the Earth's population." Who owns those resources? Who has the right to use and appropriate them? Who should? Today there is no widely accepted international law governing the moon and other celestial bodies. In the next decade the world faces the intricate task of successfully fashioning a natural resources agreement for the moon and other mineral-rich bodies that satisfies the concerns of all humanity.

This paper is designed to provide a framework for a workable space exploration policy that is committed to the equitable distribution of natural resources between all states. Part one is a review of the existing Moon Treaty and a demonstration of its shortcomings in the regulation of celestial resource exploitation. Part two is a draft proposal for an alternative Moon Treaty, that avoids many of the shortcomings of the status quo.

I. REVIEW OF THE MOON TREATY

The Moon Treaty is one of five stars in the constellation of space law. "The product of many labors," the treaty is the

---

* J.D., 1991, Florida State University; LL.M. in International Law, 1992, Free University of Brussels. The author is presently an associate with the law firm of Starkman & Magolnick, P.A. in Miami, Florida. The author expresses his gratitude to Professors Donna Christie (Florida State University) and Meri Sybesma-Knoll (Free University of Brussels) for their guidance. The author also wishes to thank Mr. Eduardo Bruz for his editorial and analytical expertise. Without Mr. Cruz's efforts this article would never have been.

1 NAT'L COMM'N ON SPACE, PIONEERING THE SPACE FRONTIER 3 (1986).
2 The discussion of natural resources is limited to the development and exploitation of "hard" mineral resources. See infra note 212 and accompanying text.
3 Agreement Governing the Activities of States on the Moon and Other Celestial
culmination of nine years of exhausting debate and compromise. To understand the substance of the treaty, a brief discussion of international law and space law is necessary. The next section is designed to provide that basic understanding, followed by a critical examination of the Moon Treaty.

A. Background

1. Custom and Treaty Law

International law has two origins: custom and treaty. Customary law is based on general principles that are observed. These principles are considered binding by civilized nations. It results from the general and consistent practice of states to act out of a sense of legal obligation. The "practice of states" is governmental conduct made official by statements at international conferences or in diplomatic exchanges, formal instructions to diplomatic agents, governmental decisions on matters of international concern (judicial, executive, or legislative), other similar acts, or inaction. Along with the conduct element, states must possess opinio juris sive necessitatis—a conviction that the rule is obligatory. Opinio juris may be inferred from a state's general and consistent following of the rule over a long period of time. It does not have to be universally accepted within the international community. However, there cannot be a significant amount of opposition. Further, it generally must be accepted by


4 There are several other sources of international law. However, they all fall into either the custom genre or the treaty genre. One source that should be noted in particular is the general principle of "equity." This is based upon what is fair and just. RESTATEMENT (THIRD) OF THE FOREIGN RELATIONS LAW OF THE UNITED STATES 102(2) cmt. m (1987) [hereinafter RESTATEMENT]. See also infra text accompanying notes 175-203. Other sources identified are general principles of law recognized by civilized nations, judicial decisions and the teachings of qualified authorities. I.C.J. Stat. art. 38(1).

7 RESTATEMENT, supra note 6, at § 102(2).

8 Id. at cmt. b.
the world’s great powers, as well as by smaller states that are directly affected by the particular custom. 9

Treaties are the second source of international law. 10 Treaties are the memorialization of agreements made between states. Treaties exist to eliminate ambiguities, minimize confusion, and to clarify the future obligations of parties. 11 Prior to the initial resolutions and treaties adopted by the United Nations, space existed in a pristine state. However, it is reasonable to expect that, as space access and use become more widespread, customary law will evolve. 12

The two key problems with treaty law are enforcement and interpretation. Nations that violate treaty law are subject to penalties that are only enforceable by nations which are willing to take action. The potential “penalties” include condemnation, trade restrictions, international isolation, and war. 13 If few nations are willing or capable of abiding by a treaty, then it is not worth the paper it is written on. 14 The second problem with treaty law is precise interpretation. The guidelines are the same as for contracts, statutes, and other legal documents: interpreters look to the language, the intent of the parties, and general rules of construction. 15 However, ambiguities in international law still

9 Id. at cmt. c.
10 REYNOLDS & MERGES, supra note 5, at 25.
11 Id. at 26-27. However, treaties are not always successful in achieving their purposes. Any nation will violate a treaty when it is in their interest to do so. See W. Michael Reisman, International Incidents: Introduction to a New Genre in the Study of International Law, 10 YALE J. INT’L L. 1 (1984).
12 The majority of legal scholars are of the opinion that some notions of international law are vague statements of ideals (i.e., reflections of political aspiration and moral commitment), not substantive law. However, those vague terms and phrases may ultimately ripen into rules of conduct through the evolution of political realities. See Scott Ervin, Note, Law in a Vacuum: The Common Heritage Doctrine in Outer Space Law, 7 B.C. INT’L & COMP. L. REV. 403, 424-25 (1984).
13 REYNOLDS & MERGES, supra note 5, at 27.
14 It should be recognized, however, that if most nations are willing to voluntarily abide by the treaty, it is worth infinitely more than the paper it is written on.
15 REYNOLDS & MERGES, supra note 5, at 27. Other factors in interpreting treaty ambiguities were identified in The Vienna Convention on the Law of Treaties:

ARTICLE 31 General rule of interpretation
1. A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in the context and in the light of its object and purpose.
2. The context for the purpose of the interpretation of a treaty shall comprise, in addition to the text, including its preamble and annexes:
(a) any agreement relating to the treaty which was made between all the
occur; interpretation problems are heightened by the use of different languages in the negotiation and creation of treaties.\textsuperscript{16}

2. Property Rights in Space

International law controls the system of resource distribution by establishing rules which nations must follow in order to assert

\begin{itemize}
\item parties in connection with the conclusion of the treaty;
\item any instrument which was made by one or more parties in connection with the conclusion of the treaty and accepted by the other parties as an instrument related to the treaty.
\end{itemize}

3. There shall be taken into account, together with the context:

\begin{itemize}
\item any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions;
\item any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation;
\item any relevant rules of international law applicable in the relations between parties.
\end{itemize}

4. A special meaning shall be given to a term if it established that the parties so intended.

**ARTICLE 32 Supplementary means of interpretation**

Recourse may be had to supplementary means of interpretation, including the preparatory work of the treaty and the circumstances of its conclusion, in order to confirm the resulting from the application of article 31, or to determine the meaning when the interpretation according to article 31:

\begin{itemize}
\item leaves the meaning ambiguous or obscure; or
\item leads to a result which is manifestly absurd or unreasonable.
\end{itemize}

**ARTICLE 33 Interpretation of treaties authenticated in two or more languages**

1. When a treaty has been authenticated in two or more languages, text is equally authoritative in each language, unless the treaty provides or the parties agree that, in case of divergence, a particular text shall prevail.

2. A version of the treaty in a language other than one of those in which the text was authenticated shall be considered an authentic text only if the treaty so provides or the treaties so agree.

3. The terms of the treaty are presumed to have the same meaning in each authentic text.

4. Except where a particular text prevails in accordance with paragraph 1, when a comparison of the authentic text discloses a difference of meaning which the application of articles 31 and 32 does not remove, the meaning which best reconciles the texts, having regard to the object and purpose of the treaty, shall be adopted.


\textsuperscript{11} A classic example is the use of “province of all mankind” in Article I of the Outer Space Treaty. See Multilateral Treaty on the Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, Jan. 27, 1967, 18 U.S.T. 2410. The word “province” means substantially different things in English, French, Spanish, and Russian; all of which are “official” languages in the treaty. See B. Maiorsky, \textit{A Few Reflections on the Meaning and the Interpretation of “Province of All Mankind” and “Common Heritage of Mankind” Notions}, \textit{PROC. OF THE 29TH COLLOQUIUM OF THE LAW OF OUTER SPACE} 58, 59-60 (1987).
legitimate property claims. Sovereignty is at the heart of property rights. The structuring of celestial property rights begins with an evaluation of space in its pristine state. The sovereign, if anyone, determines the type of political and economic structures to be established.

There are three prevailing approaches to determining sovereignty over celestial natural resources: res nullius, res communis, and "freedom of outer space." Res nullius is the philosophy that views outer space as "unclaimed territory." According to this theory, space belongs to no one and may be appropriated to the exclusion of others. The res nullius approach is one of domination via occupation. It is within this framework that the developing nations see inequities. As is evidenced by the current distribution of the earth's resources, a nation may exercise sovereignty over resources to the exclusion of other nations, thus preempting all others' demands for access to that same property. Res nullius is the view currently held by developed countries and the major corporations that seek to exploit the moon and other celestial resources for their own profit.

A second approach to resource distribution is res communis. This approach is advocated by the developing countries. It is an approach of open or common access to resources. It is generally believed that the method of managing this type of property is to have a common ownership scheme or an international regime. The alternative would be to have a method of

---

20 Developing nations are the group of approximately 120 countries, primarily located in the southern hemispheric continents of Africa, Asia, and Latin America. These countries are also known as the "third world," "fourth world," "the south," and "lesser developed countries," "underdeveloped countries," and "non-aligned countries." See Alan Friedman & Cynthia A. Williams, The Group of 77 at the United Nations: An Emergent Force in the Law of the Sea, 16 San Diego L. Rev. 555 (1979).
23 Kosmo, supra note 18, at 1074.
resource management.\textsuperscript{25} \textit{Res communis} generally applies to resources that are available in such abundance or are so remote that there are no conflicts among current or potential users, like the resources in the seabed or outer space.\textsuperscript{26}

The third view, which is generally held by the developed countries, especially the United States, is grounded in the "freedom of the high seas" philosophy.\textsuperscript{27} In the context of celestial resource issues, this philosophy could be viewed as the "freedom of outer space."\textsuperscript{28} According to this doctrine, "no state may claim or acquire exclusive sovereign rights to an area of pristine space."\textsuperscript{29} However, absent some agreement to the contrary, parties may use or exploit space resources, as long as there is reasonable regard for the rights and activities of others.\textsuperscript{30}

3. History of Space Law

The launch of Sputnik by the former Soviet Union awakened the world to the imminent legal implications of space activities.\textsuperscript{31} The debate on this issue resulted in the creation of the United Nations Ad Hoc Committee on the Peaceful Uses of Outer Space (COPUOS) in 1958.\textsuperscript{32} COPUOS, which became a permanent body of the United Nations in 1959,\textsuperscript{33} has had several successes in the creation of international space law. The first major success was the unanimous approval of the Declaration of Principles Governing the Activities of States in the Exploration and Use

\textsuperscript{26} Mau, supra note 22, at 232.
\textsuperscript{27} See generally Hugo Grotius, \textit{De Jure Praedae} (1609). For a review of the American version of this theory, see Van Dyke & Yuen, supra note 19, at 501-14; Kosmo, supra note 18, at 1074.
\textsuperscript{28} Kosmo, supra note 18, at 1074.
\textsuperscript{29} Id.
\textsuperscript{30} Id.
of Outer Space, which ultimately resulted in the 1967 Outer Space Treaty. The bases of the treaty are the notions that all states shall have equal rights of exploration and use of outer space, that activities in outer space are to be conducted in the interest and for the benefit of all humankind, and that outer space is not subject to the sovereignty of any nation.

The Outer Space Treaty was an important step in international relations because it rejected res nullius with regard to the exploration of celestial bodies. The treaty embraced the notion that outer space is the "province of all mankind and should be developed for its benefit." The treaty is also important because it was the first attempt to fill the legal vacuum in space; rules were created where none previously existed. The Outer Space Treaty became a framework for building cooperation and peace in future space relations through the adoption of three guiding principles: (1) international law, and specifically, the United Nations Charter should apply to outer space activities; (2) outer space should be free for exploration and use by all states; and (3) outer space should not be subject to national appropriation or claims of sovereignty.

The next treaty governing space exploration activities was the "Astronaut Rescue Agreement." This treaty imposed ob-

---

35 Id. at art. I.
36 Id. at art. II. See Leslie I. Tennen, Outer Space: A Preserve for All Human Kind, 2 HOUSTON J. INT'L L. & BUS. 145, 149 (1979).
38 Outer Space Treaty, supra note 35, art. I. The preamble to the 1958 space resolution first suggested that the heavens should exist for the "benefit" of all mankind.
40 Ervin, supra note 12, at 409. President Lyndon Johnson once noted: The Future leaves no option. Responsible men must push forward in the exploration of outer space, near and far. Their voyages must be made in peace for purposes of peace on earth. This Treaty is a step — a first, but a long step — toward assuring the peace essential for the longer journey.
41 1 PUBLIC PAPERS OF THE PRESIDENTS 150 (1967).
ligations upon states to render all due aid and assistance to distressed astronauts and to return space objects which come into their possession to the state that launched them. The purpose of the treaty was to further the cooperative nature of international ventures in outer space by obligating all party states.

The third treaty adopted as a result of the efforts of COP-UOS was the "Liability Convention." The Liability Convention imposes strict liability "upon launching states [or their agents] for damage caused by spacecraft to aircraft in flight, or on the surface of the earth." Liability for damage caused to another spacecraft is also provided and is predicated upon fault.

Excluding the Moon Treaty, the most recently adopted space treaty is the Convention Governing the Registration of Objects Launched into Outer Space (the "Registration Convention"). The Registration Convention requires launching states to maintain a registry of objects launched into the earth's orbit or beyond and to supply that list to the Secretary-General of the United Nations along with information regarding the object's flight trajectories, orbital parameters, and intended purpose.

B. The Moon Treaty

The negotiations that resulted in the Moon Treaty occurred between 1970 and 1979. The Legal Subcommittee held nine sessions to discuss the differing points of view on the treaty. On December 5, 1979, the United Nations General Assembly approved the Agreement Governing the Activities of States on

---

44 Id. at art. 2.
45 Id. at art. 5.3.
46 Raclin, From Ice to Ether, supra note 39, at 733.
48 Id. at art. II.
49 Id. at art III. See Raclin, From Ice to Ether, supra note 39 at 734 (regarding damages, liability is apportioned on the basis of fault, with the launching state being held liable only if injury is caused by its fault).
51 Id. at arts. II, IV.
52 Whether entitled "agreement" or "treaty," the Moon Treaty and all of these space documents are treaties. See Oppenheim, supra note 17, at 898. (International
the Moon and Other Celestial Bodies and requested the Secretary-General to open the treaty for signature and ratification at the earliest time. It was opened for signatures on December 19, 1979. The treaty entered into force on July 11, 1984 upon the signature of Austria, the fifth country to ratify the treaty. To date, only seven countries have signed the treaty: Australia, Austria, Chile, the Netherlands, Pakistan, the Philippines and Uruguay.

1. History of the Moon Treaty

In 1970, Argentina's representative to COPUOS, Professor A.A. Cocca, submitted a "Draft Agreement on the Principles Governing Activities in the Use of the Natural Resources of the Moon and Other Celestial Bodies." Positing that "the use of the Moon's natural resources had already begun" and that there was a legal vacuum governing celestial resources, Cocca offered a five-article proposal to protect the interests of all state compacts which take the form of written contracts are sometimes termed not only agreements or treaties, but acts, conventions, declarations, protocols and the like. But there is no essential difference between them, and their binding force upon the contracting parties is the same, whatever their name may be.)

Moont Treaty, supra note 3.

4 Staff of the Senate Comm. on Commerce, Science and Transportation, 96th Cong., 2d Sess., Report and Staff Materials on Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Comm. Print 1980) (analyzing the report of Eilene Galloway) [hereinafter Committee Print].


6 Raclin, From Ice to Ether, supra note 39, at 735.


8 For a comprehensive review of space law leasing to the final draft of the Moon Treaty, see Christol, supra note 4, at 448-83.


10 This is reference to the Apollo missions and certain Soviet lunar missions, where samples were extracted from the soil for scientific purposes. Committee Print, supra note 54, at 413.

11 This is reference to the 1967 Outer Space Treaty, which did not include specific regulations of the moon and other celestial bodies. See Ervin, supra note 12, at 404.
parties. The first article of the draft declared that "the natural resources of the moon and other celestial bodies shall be the common heritage of mankind."

No action was taken at that time. In May 1971, however, then Soviet Foreign Minister Andre Gromyko, requested that the General Assembly consider the "Preparation of an International Treaty Concerning the Moon." The request was promptly followed by a Soviet proposal. The Soviet version was narrow when compared to the Argentinean proposal: the Soviets excluded any mention of common


The key provisions of the Argentinean proposal were:

Article 1. The natural resources of the Moon and other celestial bodies shall be the common heritage of all mankind...

Article 4. The benefits obtained from the use of the natural resources of the Moon and other celestial bodies shall be made available to all peoples without discrimination of any kind...

Article 5. In distributing such benefits, account shall be taken of the need to promote the attainment of higher standards of living and conditions of economic and social progress and development, pursuant to article 55a of the Charter of the United Nations ("higher standards of living, full employment, and conditions of economic and social progress and development"), in light of the interests and requirement of the developing countries and the rights of those undertaking these activities.

However, the United Nations was engaged in a related discussion on a deep seabed treaty, involving many of the same concepts (like the common heritage of mankind) proposed by Argentina in their lunar treaty proposals. Committee Print, supra note 54, at 7-8. Those sea treaty discussions ultimately resulted in a seabed agreement. See infra text accompanying notes 155-75.

The following are several of the most important aspects of the Soviet lunar treaty proposal of 1971:

Article II (1) The Moon shall be used by all States Parties exclusively for peaceful purposes.

Article III (1) State Parties shall strive to co-operate in matters relating to activities on the Moon. Such co-operation may be on either a multilateral or a bilateral basis. (2) Each State Party shall engage in exploration and use of the Moon with due regard to the interests of present and future generations and with respect for rights of other States Parties as specified in this treaty.

Article V (1) States Parties may pursue their activities in the exploration and use of the Moon anywhere on the surface of the Moon, in its subsoil or in circumlunar space.


Mau, supra note 22, at 238.
ownership or "common heritage" in their proposal and instead proposed that "space be an international area for common use." The General Assembly responded to the Soviet proposal by requesting that COPUOS and its Legal Subcommittee draft a treaty concerning resource exploitation.

The United States also had its say. In preparation for the legal subcommittee sessions in 1972, the United States engaged in an extensive revision of the Soviet Proposal.

In opposition to the Soviet draft which applied only to the moon, the United States proposed that the treaty also include "other celestial bodies," a concept already embodied in the 1967 Outer Space Treaty. Originally, the United States, along with several third world nations, supported the common heritage concept.

How-

---

8 Committee Print, supra note 54, at 13.
9 Id.
10 The prevailing view among the third world countries was full embracing of the "common heritage" concept. Committee Print, supra note 54, at 15. As is discussed later, it is within this framework that the developing countries see solutions to the problems of inequality. See Bilder, supra note 21.

The working paper proposed by Egypt and India best illustrates this notion:
(i) The Moon [and other celestial bodies] and their natural resources shall be the common heritage of all mankind.
(ii) The exploration and use of the Moon [and other celestial bodies] and their natural resources shall be carried out in the interest of mankind as a whole and the benefits arising therefrom shall be made available to all peoples without discrimination of any kind.
(iii) In the distribution of such benefits account shall be taken of the need to promote the attainment of higher standards of living and conditions of economic and social progress and development, pursuant to Article 55(a) of the Charter of the United Nations in the interests and requirements of the developing countries.


73 Nancy L. Griffin, Comment, Americans and the Moon Treaty, 46 J. Air L. & Com. 729, 731 (1981). United States support for the "common heritage" concept is best illustrated by Herbert Reis, then the U.S. Representative to the Legal Subcommittee to COPUOS:

On the broadest level of generality, it seems right to state that such resources are part of 'the common heritage of all mankind'. This would parallel the policy proposed by President Nixon two years ago this month that all nations should regard the resources of the seabed . . . as the common heritage of mankind.

ever, as will be discussed in depth later in this paper, United States' support eroded.\(^7\) Nevertheless, in 1972, consistent with prevailing public opinion among United Nations delegates, the United States introduced an article embracing the common heritage of mankind.\(^8\) Another United States proposal required that parties to the moon agreement must carry out their activities "consistent with international law, including the Charter of the United Nations and other treaties in force."\(^9\) On the issue of the kind of information, if any, that should be disclosed prior to a mission to the moon, the United States proposed that the United Nations Secretary-General and certain parties in the scientific community should be briefed on scientific and logistical facts, as well as told about the purpose and results of the mission.\(^10\)

In May 1972, after considerable debate,\(^11\) consensus was reached by COPUOS on twenty-one articles.\(^12\) By 1973, a draft

\(^7\) See infra notes 127-29 and accompanying text.
\(^8\) The following is a text of U.S. Working Paper No. 12, Rev. 1, introduced on Apr. 17, 1972 proposing an Article VIII on natural resources:
1. The natural resources of the Moon and other celestial bodies shall be the common heritage of all mankind.
2. States Parties may use appropriate quantities of the resources of the Moon and other celestial bodies in carrying out scientific investigations in furtherance of the provisions of this Treaty, whether supporting scientific activities on the Moon or other celestial bodies or by removing such resources to the Earth for analysis or analyzing them in space or on the Moon or other celestial bodies.
3. The States Parties to this Treaty, bearing in mind the need for economic advancement and for the encouragement of investment and efficient development if utilization of the resources of the Moon and other celestial bodies becomes a reality, recognize the importance of concluding agreements in this area. To this end, the Depository Governments shall promptly convene a meeting of all States parties, with a view to negotiating arrangements for the international sharing of the benefits of such utilization when one third of the States parties inform the Depository Governments that they consider that practical utilization of the resources of the Moon or other celestial bodies is likely to begin within two years following or has already begun.

\(^10\) Other facts to be disclosed were intended location, orbital parameters, duration and the nature and conduct of the mission. See Committee Print, \textit{supra} note 54, at 13.
\(^11\) \textit{Id.} at 15.
\(^12\) \textit{Id.}
The most critical compromises were reached on the "common heritage" provision and in the establishment of an "international regime" to govern the exploitation of celestial resources. Both compromises are best illustrated through India's March 27, 1973 amendment to Article X of the draft treaty:

1. The moon and other celestial bodies, their subsoil as well as their resources, are the common heritage of mankind.
2. States Parties undertake to establish an international regime for the orderly and safe development and rational management of the resources of the moon and other celestial resources and their subsoil, and for expanding opportunities in the use thereof, and to insure the equitable sharing by all states in the benefits derived therefrom, taking into particular consideration the interests and needs of the developing countries.
3. Exploitation of the resources of the moon and other celestial bodies and their subsoil shall not be done except in accordance with the international regime to be established. For this purpose, the depository Governments shall convene a conference of all States Parties at the request of one third. . . .

Though this amendment was popular with third world nations, it was unacceptable to the United States and the Soviet Union. The United States objected to a possible moratorium from Article X proscriptions limiting authorization for the removal of natural resources to projects involving "scientific investigation." Instead, the United States insisted on language indicating that a moratorium against assertion of mineral rights would not apply to mined resources obtained before the regime, or "subject to the rules of the regime."
The Soviet Union, until July 1979, opposed the "common heritage" language. A March 1973 Soviet working paper addressed the issue:

One of the issues that still remains unresolved in the consideration of the draft treaty relating to the moon is the use of the concept of the "common heritage of all mankind..."

According to the 1967 Treaty on Outer Space, celestial bodies are the province of all mankind. They are available for undivided and common use of all States on earth, but are not jointly owned by them. This is the essential feature of international law.66

Eventually, the Soviets did accept the "common heritage" concept. However, Soviet support was predicated on the requirement that the concept extend no further than the lunar agreement and its eventual regime.57 Compromise succeeded. On December 5, 1979, the United Nations General Assembly adopted, as a resolution, the "Agreement Governing the Activities of States on the Moon and Other Celestial Bodies"—the Moon Treaty.88

2. Description of the Moon Treaty

The Moon Treaty is a twenty-one article document which applies to the moon and other celestial bodies in this solar system, excluding the earth.69 Several key provisions of the treaty should be examined. The Moon Treaty proclaims that "the moon and its natural resources are the common heritage of mankind."90 Any exploration or exploitation of the moon is to be carried on for the benefit of all parties to the treaty, without regard to their level of development.91 The treaty further proclaims that the moon is not subject to national appropriation as

that the same section of article X states that "Neither the surface nor the subsurface, nor any part thereof or natural resources in place shall become the property of any State..." Report of the Legal Subcommittee on the Work of its Eleventh Session Apr. 10 - May 5, U.N. Doc. A/AC.105/115 (1972).

* Moon Treaty, supra note 3, at art I(1). For simplicity reasons, the term "moon" will be used to describe any celestial body covered by the treaty.
* Id. at art. XI(I).
* Id. at art. IV(I).
a result of any claims of sovereignty. The purpose of these proclamations is to insure that the resources of the moon never become the property of any country or people.

The treaty also establishes that an international regime to govern the exploitation of the moon and its resources is to be created when such projects are technologically feasible. The agreement provides that a conference is to be declared ten years after it has come into force or after it has been in force for at least five years and one-third of the members to the agreement call for a meeting. The treaty does not indicate that the meeting necessarily must create a regime. More likely, the first few meetings called will discuss the need for a regime at that time and the type of regime it will be. The goals of the international regime will include the development and rational management of the moon's resources. The primary focus of the regime will be the "equitable sharing" in the benefits derived from those resources by all states. The treaty fails to define "equitable." However, the agreement does insist that, in setting up the regime, the interests of the developing countries and the efforts of those states that have contributed to the exploration of the moon are to be given special consideration.

The treaty also states that the moon is to be used exclusively for peaceful purposes. This prohibition includes a ban on military bases, weapons tests, nuclear weapons, and the threat of force. However, military personnel are allowed as long as they are engaged in scientific work or any other peaceful purpose.

The Moon Treaty further states that lunar exploration is to occur in accordance with the United Nations Charter and the

92 Id. at art. XI(2).
93 Id. at art. XI(3).
94 Moon Treaty, supra note 3, at art. XI(5).
95 The Moon Treaty came into force 11 July 1984. Raclin, From Ice to Ether, supra note 39, 735.
96 Moon Treaty, supra note 3, at art. XVIII.
97 Id. at art. XI(7).
98 Id.
100 Moon Treaty, supra note 3, at art. XI(7).
101 Id. at art. III(1).
102 Id. at art. III (2), (3), (4).
103 Id. at art. III(4).
entire system of international law. As such, nations are to be guided by "principles of cooperation and mutual assistance" and are to strive for the widest possible international cooperation. Examples of this cooperation are the sharing of scientific samples and exchanges of personnel on lunar missions, the right to visit others' lunar installations, prompt disclosure of mission logistics and mission data to the Secretary-General, and disclosure of the results of each mission, especially results concerning natural resources or phenomena that might endanger human life. Though cooperation and good-will are required in the exploitation of outer space, the treaty does allow states to retain control over their lunar missions. All states are free to conduct scientific investigations, including space vehicle use, personnel and equipment placement and movement, and lunar space stations. This includes the right to own the equipment and facilities placed on the moon, as well as to collect and keep scientific samples.

One final aspect of the treaty is the requirement that disputes be settled in a peaceful manner. A state that believes that another party is violating the agreement may request consultations with that party. Any other party to the treaty may join the consultation, and all shall try to achieve a mutually acceptable resolution to the controversy. If these negotiations fail, the disputing parties may attempt any appropriate method of peaceful resolution. The Secretary-General may be consulted in the event that no resolution can be reached. The treaty does not provide for mandatory jurisdiction before an adjudicatory body nor any other compulsory process in the event that negotiations fail.

3. Controversial Aspects of the Moon Treaty—Concerns of Developed Countries

Notwithstanding passage by the General Assembly and strong arguments made by the proponents of ratification, the Moon

---

104 Id. at art. II.
105 Moon Treaty, supra note 3, at art.IV(2).
106 Id. at art. VI(2), (3).
107 Id. at art. XV(1).
108 Id. at arts. XI(6), V(3).
109 Id. at arts. VIII(2), IX(1).
110 Id. at art. III(6), V(3).
111 Moon Treaty, supra note 3, at arts. XII(1), VI(2).
112 Id. at art. XV.
113 See infra note 169 and accompanying text.
Treaty has been met with tremendous international resistance to ratification by the governments of the potential parties to the treaty. As indicated above, only seven countries have ratified the Moon Treaty as law.\textsuperscript{114} Included in the group of countries that have refused to ratify the Moon Treaty are the United States, the former Soviet Union (which still maintains a Commonwealth of Independent States space program), the European Community Nations,\textsuperscript{115} and dozens of developing countries. Moreover, none of these countries have taken any steps to seek the adoption of an acceptable alternative.\textsuperscript{116} As long as these developed countries do not embrace a moon agreement that offers some protection for the third world,\textsuperscript{117} there is little hope for an equitable arrangement.

Several controversial clauses in the treaty have been the reason for the "log jam." By analyzing the controversial aspects of the treaty it is possible to learn from the mistakes of the previous lunar agreement and propose a successful alternative.\textsuperscript{118}

a. The Common Heritage of Mankind

The concept that certain property could be commonly owned by the international community dates back to 1910, when T.W. Balch suggested that "Antarctica 'should become the common possession of all members of the family of nations.'"\textsuperscript{119} It was

\textsuperscript{114} See supra text accompanying notes 54-57.
\textsuperscript{115} The European Community, also known as the European Economic Community, is made up of twelve nations: Belgium, Britain, Denmark, France, Germany, Greece, Italy, Luxembourg, the Netherlands, Spain, Portugal, and Ireland. The Economist (U.K.) July 7, 1990, at 12. It is the product of the Treaty of Rome, the goal of which is the creation of a union of people "for a closer alliance to end all war." Jacques Delors, Europe on the Way to 1992, Int'l Aff. (Moscow) Nov. 1989, at 1, 14. The basic function of the community is the maintenance of a common customs union, ensuring the free movement of goods, services, people, and capital among the member states. See Treaty Establishing the European Community. However, there has also been movement toward union in other areas: monetary, environmental, social, and military to name a few. See Single European Act; Maastrict Treaty.
\textsuperscript{116} Raclin, International Cooperation in Commercial Space Activities in Outer Space, supra note 42, at 236.
\textsuperscript{117} See infra note 22 and accompanying text.
\textsuperscript{118} George Santayana once said "those who cannot remember the past are condemned to repeat them." Bartlett's Familiar Quotations 867 (14th ed. 1968).
\textsuperscript{119} Raclin, From Ice to Ether, supra note 39, at 737. On May 2, 1958, the United States invited 12 states to a conference which would result in the Antarctica Treaty. See Antarctica Treaty, 402 U.N.T.S. 71 opened for signature 1 December 1959 (entered into force 23 June 1961); Matte, supra note 55, at 317 (The treaty provides that Antarctica is to be used for "peaceful purposes only").
not until 1952 that the concept was applied to outer space. Five years before Sputnik, Oscar Schachner, then Assistant Director of the United Nations Legal Department, submitted that space and its celestial bodies should be considered "the common property of all mankind over which no nation would be permitted to exercise its domination." The notion of protecting humankind's interests in space found its way into many space resolutions. Ultimately, the concept gained entry into the 1967 Outer Space Treaty and finally into the Moon Treaty as the "common heritage of mankind" clause.

The conflict over the common heritage concept comes down to one question: what theory of property does the common heritage of mankind evoke, res communis, res nullius, or freedom of the seas? The developing countries see the common heritage concept as focusing on their unjustifiable state of inequality. Accordingly, they hold the notion that the Moon is common property, res communis, and that taking property declared to be the common heritage of mankind is stealing.124

120 Matte, supra note 55, at 317 (quoting O. Schachtner, from J. Kaplin, Across the Space Frontier 118 (C. Ryan 1st ed. 1952)).
121 G.A. Res. 1348 (XIII) (1958) proclaimed that the space environment was to be used for the "common interest of mankind" and for the "benefit of mankind;" both UNGA Res. 1472 (XIV) (1959) and UNGA Res. 1721 (XVI) (1961) stated that space was to be used in the "common interest of mankind" and for the "betterment of mankind." Matte, supra note 55, at 318 n.17.
122 The Outer Space Treaty states that the exploration and use of outer space is to be carried out "for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind." Outer Space Treaty, supra note 35, at art. I(1).
123 See United States House Comm. on Science and Technology, Hearings, Hearings before the Subcomm. on Space Science and Applications on International Space Activities, 96th Cong, 1st Sess. 96 (6 Sept. 1979) (Statement of Leigh Ratiner) [Hereinafter Hearings I].
124 Christopher Pinto, Sri Lanka’s Ambassador to the Law of the Sea Conference said of the common heritage concept in the Law of the Sea: "if you touch the nodules at the bottom of the sea, you touch my property. If you take them away, you take my property." See Kevin B. Walsh, Controversial Issues Under Article XI of the Moon Treaty, 6 Annals of Air and Space L. 489, 491 (1981). (quoting Proceedings of the Sea Institute, University of Hawaii, Workshop (Dec. 11-14, 1978)). An excellent description of the characteristics of the common heritage concept was presented by Nicolas Matte. Those elements are that:

(1) the area under consideration cannot be subject to appropriation; (2) all countries must share in its management; (3) there must be an active sharing of benefits reaped from the exploitation of resources; (4) the area must be dedicated to exclusively peaceful purposes, and (5) the area must be pre-
For them, the common heritage of mankind incorporates three central concepts: (1) the absence of private ownership rights in the property deemed to be the common heritage of mankind; (2) the management of the property by a multinational body; and (3) the sharing of benefits flowing from the use or exploitation of the property with all countries without regard to their input in a particular project or expedition.\(^2\)

Within the American capitalist community, tremendous reservations have existed over whether to join the treaty. The United States has always maintained that common heritage was governed by the freedom of the seas theory but did not embody any substantive rules or a predetermined legal regime to regulate activities.\(^1\) The original United States' support for the treaty faltered because of this strong opposition.\(^2\) The corporate community has successfully argued that the ambiguity of the concept leaves open the possibility that the third world’s interpretation of the common heritage concept would be accepted into the corpus spatialis, which would be deleterious to the free enterprise/free market economy.\(^2\) This view was best illustrated by Alexander Haig, then President of United Technologies Corporation:

Clearly, the common heritage concept expressed in the treaty underlies third world efforts directed at a fundamental redistribution of global wealth. . . . In advancing the concept of common heritage, Third World Countries have indicated they intend to gain control over critical raw materials and to gain access as a matter of right to the technology needed to exploit them . . . . Proceeding any sooner with signing and ratification

\(^{12}\) Ervin, supra note 12, at 421. (Some of the groups within the United States that lobbied so strongly against the treaty were the L-5 Society, the America Mining Congress, and United Technologies Corp.)

\(^{12a}\) Walsh, supra note 124, at 492.
is opposed by United Technologies, because it would doom any private investment directed at space resource exploitation.\textsuperscript{129}

The former Soviet Union opposed the common heritage concept since its inception. They believed that, while it is true that exploitation entails responsibility to future generations, that responsibility "only justifies space being an international area for common use."\textsuperscript{130} It is claimed by some that the Soviet position was a desire to achieve middle ground between the American capitalist free market view and the third world "common property" concept: limited space exploration by the state.\textsuperscript{131} In reality, it is just a watered down version of \textit{res nullius}. The Soviet position subordinated the interests of the international community to that of the state. While they did not claim ownership, the Soviets rejected any limitation on their use of space resources, so long as their actions did not rise to the level of "a national appropriation" of commonly accessible exhaustible resources.\textsuperscript{132}

Since the collapse of the Soviet Union there has been no noticeable change in policy. The nations of the Commonwealth of Independent States have yet to sign the current Moon Treaty. There is no reason to expect that they will. There is also no indication that their view of the common heritage concept is likely to change so dramatically as to breathe new life into the foundering Moon Treaty.

\textsuperscript{129} See Hearings \textit{II}, supra note 126, at 219-20. Under the Carter Administration, the United States voted in the General Assembly for the Moon Treaty Resolution. See \textit{supra} note 53-55 and accompanying text. Under President Reagan, the United States dramatically changed its position and refused to ratify the treaty. Interestingly, Alexander Haig, an outspoken critic of the Moon Treaty became Secretary of State under President Reagan and presided, as head of United States foreign policy, over the dismantling of American support for the Moon Treaty.

\textsuperscript{130} Id. at 420.

\textsuperscript{131} Id. It is unclear what the Soviet position is in the wake of "perestroika." It is unlikely that they will adopt the third world view, given that they possess the technology to exploit space unilaterally. It is also unlikely that they would mirror the United State's position; the Soviets do not have the economic base to compete with the western capitalist countries. A likely posture for the Soviets is some movement towards the capitalist view. However, as long as the major industries and technologies remain in the hands of the state, nationalism will remain a core of the Soviet position. See Jaksetic, \textit{supra} note 68, at 505 ("... the Soviet Union's refusal to accept the Third World's position on natural resources demonstrates its desire to permit the use of resources in outer space for nationalistic ends").

\textsuperscript{132} Jaksetic, \textit{supra} note 68, at 503-04.
For whatever philosophical reason, former Soviet and current American reservations about the definition of "common heritage" effectively terminated any chance that the current Moon Treaty would be ratified. However, by coming to a consensus definition of common heritage and including it in the language of the treaty, the problem of ambiguity may be avoided.\textsuperscript{133}

b. Moratorium

There are two kinds of moratoria feared by the developed countries: a legal restriction against mineral exploitation and a \textit{de facto} restriction which results from the ambiguity of the current treaty.\textsuperscript{134}

(1) Legal Moratorium

According to some opponents, the treaty imposes a legal moratorium pending the creation of the international regime. Their position is based on three foundations. First, a moratorium is implicit in the common heritage principle.\textsuperscript{135} Second, according to Article 11(5), once exploitation is about to become feasible, a regime is to be negotiated; thus, the regime precedes exploitation.\textsuperscript{136} Third, Article 6(2) limits the use of celestial resources to "scientific investigations" and only in "appropriate quantities."\textsuperscript{137} It is irrelevant that these arguments are fallacious.\textsuperscript{138} As

\begin{itemize}
  \item \textsuperscript{133} Walsh, \textit{supra} note 124, at 497.
  \item \textsuperscript{134} See id. at 496.
  \item \textsuperscript{136} \textit{Hearings II, supra} note 126, at 15 (statement of Roberts Owen).
  \item \textsuperscript{138} The negotiating history of the treaty is "replete with unequivocal statements by the United States that we would not accept a moratorium and that the common heritage concept did not imply a moratorium." \textit{Hearings II, supra} note 126, at 15 (statement of Roberts Owen). Furthermore, attempts by some states to impose a moratorium until a regime was established were decisively rejected. U.N. Doc. A/AC.105/PV.203 (1979) (statement of S. Neil Hosenball); \textit{Hearings II, supra} note 126, at 15 (statement of Roberts Owen). Finally, "Article 11(8) of the treaty provides that 'all activities' with respect to natural resources shall be carried out in a manner compatible with the purposes of the regime set forth in Article 11(7), and this provision was specifically included in the treaty to establish principles which would cover exploitation carried out before establishment of an international regime. \textit{Hearings II, supra} note 126, at 15-16 (no moratorium was intended or established) (statement of Roberts Owen) (emphasis added).
long as the developed countries believe there is a moratorium, they are unlikely to sign the agreement.

(2) De Facto Moratorium

There are two reasons given by corporations and developed countries for their belief that the treaty imposes a *de facto* moratorium. First, the common heritage principle is too vague. There is no accepted definition of the common heritage of mankind in the Moon Treaty. S. Neil Hosenball, the head of the American Delegation to COPUOS has stated that "it would be impossible to come up with a definition in a space context." The United States and other developed countries see this ambiguity of the common heritage concept as leaving open the possibility of having to live with the broadest of interpretations: that common heritage means the unacceptable—common ownership. Second, the uncertainty as to the type of regime that will be established makes potential investors reluctant to invest in outer space exploitation. It is argued that in an area that requires very large investments in innovative technology, no corporation will engage in the necessary fifteen to twenty years given the risk that all their efforts will be nullified by an unfavorable regime. Corporations, it is argued, could not be ex-

---

139 This criticism has been made against all resource arrangements in space, including remote sensing, television satellite broadcasting, and natural resource exploitation. See Wassenbergh, *Speculations on the Law Governing Space Resources*, 5 *ANNALS OF AIR & SPACE L.* 611, 614 (1980).

140 Walsh, *supra* note 124, at 490. This ambiguity is noted by Glenn Reynolds and Robert Merges:

A review of the Moon Treaty's negotiating history supports the view that the term [common heritage of mankind] does not [imply] and need not lead to the use in a lunar resource regime of procedures and criteria developed in any other context . . . To quote one space commentator, the phrase is "purely declaratory . . . and open to all interpretations" . . .

Conversations with delegates to the Outer Space Committee reinforce . . . the feeling that the phrase is in essence a continuation of the very general concept from the 1967 Outer Space Treaty of space as the "common heritage of mankind" with an attempt to move into language more commonly used in international language. In addition, to date, no two delegations have said the term means the same thing at any given time.


141 It is ironic that the Soviet Union and some American corporations find themselves in agreement when the Americans have labeled the common heritage concept as "international socialism." See Mau, *supra* note 22, at 257-58.

142 See Walsh, *supra* note 124, at 496.

143 *Hearings II, supra* note 126, at 16 (statement of Roberts Owen).
pected to make the initial investments without a legal framework to govern extraterrestrial resource development. One outspoken critic of the treaty has observed:

Such large capital investments cannot be made by free enterprise without clear legal guidelines that allow commercial operations to exploit space resources for profit. Free enterprise institutions simply cannot make significant investments in space while they are under the threat of lawsuits over the meaning of treaty terms or ex post facto appropriation of their investments by a nebulous future international regime.

As with legal moratoria, it is not relevant that these arguments are wrong. The commercial and psychological beliefs of developed countries have doomed the treaty. Their perception that the current treaty will chill their investment in lunar mining

---


146 All of these arguments are false. First, the common heritage concept was tailored to satisfy the developed countries' reservations about its potential interpretations. The very language of the treaty states that common heritage is to be operationally defined within the four corners of the agreement:

Article 11(1). The "moon and its natural resources are the common heritage of mankind, which finds its expression in the provision in the provisions of this Agreement and in particular paragraph 5 of this article" [which is a commitment by all signatories to establish an exploitation regime]."

Moon Treaty, supra note 3, at art. 11(1).

In effect, the developed countries have agreed that implicit in the common heritage principle is the recognition of the need to create an international resource exploitation regime. "In exchange, the developing countries agreed not to insist on a provision imposing a moratorium pending the establishment of the regime." Patricia Minola, Comment, The Moon Treaty and the Law of the Sea," 18 San Diego L. Rev. 455, 468 (1981).

Second, the regime gives certain guarantees about the type of regime that is to be created. One of those guarantees is that the efforts of those countries that are engaged in exploration must be taken into consideration in the regime. Moon Treaty, supra note 3, at art.11(7)(d). It is obvious that statement makes reference to the technologically developed countries (e.g., the United States and the Soviet Union).

Finally, the "de facto moratorium" argument is empirically false. There have been numerous cooperative space projects embarked upon by private investors. For example, Radio Corporation of America, Astro-Space Division, Messerschmitt-Boelkow-Blohm, and Aerospatiale have teamed up to vigorously engage in international satellite contracting. Also, the Soviet Union and the United States both engage in joint space projects with other countries and corporations. Racin, International Cooperation in Commercial Activities in Outer Space, supra note 42, at 239.
is all that matters. The solution is a new treaty that alleviates the reservations that exist among potential space developers while remaining true to the principles of "equality and mutual benefit" that are at the core of third world support for the Moon Treaty.

c. Problems of Establishing a Regime

Article 11, paragraph 5 of the Moon Treaty states that as exploitation of the moon's resources is about to become feasible, parties to the Moon Treaty are to "undertake to establish an international regime...to govern the exploitation of the natural resources of the moon." The controversy surrounding the creation of the regime is over questions about the type of regime that will be established. Currently, there is no existing regime under the Moon Treaty. The agreement requires states to join before they can participate in the creation of a resource regime. This creates a couple of problems for developed countries and their corporate constituencies. Initially, to participate in the regime negotiations, the investment community will have to accept the common heritage principle. This they will not do. Additionally, the treaty requires that any regime embrace the notion of "equitable sharing by all States in the benefits derived..." This is unacceptable to the powerful corporations because it is too open to subjective interpretation and the danger exists that the "concept of equitable sharing is inconsistent with the concept of profit, and without profit motive private enterprise cannot be expected to risk capital on space investments."

---

147 Agreement Governing Activities of States on the Moon and Other Celestial Bodies, supra note 88.
149 Moon Treaty, supra note 3, at art. 11(5).
150 See Rao, supra note 157, at 278. Rao argues that the conventional obligation to create an international regime also obligates parties to apply the stipulated objectives of the treaty in the creation of the regime. One of those objectives is the recognition that the moon is the common heritage of humankind. See Moon Treaty, supra note 3, at art. 11(1). Article 26 of the Vienna Convention on the Law of Treaties, 1969, prescribes: "every treaty in force is binding upon the parties to it and must be performed by them in good faith." An agreement to agree is to be equally performed in good faith." Rao, supra note 137, at 278.
151 See supra text accompanying notes 119-33.
152 Moon Treaty, supra note 3, at art. 11(7)(d).
153 Griffin, supra note 73, at 762.
154 Matte, supra note 55, at 323. See also text accompanying notes 120-47.
Many developed countries have looked to the 1982 Law of the Sea Convention for guidance concerning the establishment of a regime under the Moon Treaty. They did not like what they saw. The 1982 Law of the Sea Convention applies to the resources of the seabed, ocean floor, and subsoil outside the national jurisdiction of any state. An International Seabed Authority (the Authority) is created by the sea treaty to license and regulate "polymetallic nodule" exploitation in the seabed. The 1982 Law of the Sea Convention creates its own governmental mining firm (the Enterprise) to participate in competition with private corporations that have been licensed by the Authority. Access to mineral rights is limited to parties that have been licensed by the Authority, and every private corporation must be "sponsored" by a member state before exploitation can be sanctioned. Furthermore, every mining request must provide two mining areas of equal value for potential development: the authority will pick one for the applicant, and the other will belong to the Enterprise. The regime also re-


156 The Law of the Sea is similar to the Moon Treaty in that they both declare the area in question to be the common heritage of mankind and that resource exploitation is to be carried out "for the benefit of mankind . . . taking into particular consideration the interests and needs of developing States and of peoples who have not obtained full independence. . ." Id. at arts. 136, 140.

157 Id. at arts. 1, 13, 55-76. The sea agreement delineates the areas that are outside the national jurisdiction of any country. Basically, each state that borders the oceans has a "territorial sea" that is up to 12 miles from the shoreline, over which the coastal nation has complete sovereignty. Id. at art. 87. Then there is a "contiguous zone," which extends beyond the territorial sea up to 24 miles past a country's shoreline. Though not sovereign, a coastal state may enforce its custom, immigration, and sanitary laws as necessary. Id. at art. 33. Finally, there is an "exclusive economic zone," which extends up to 200 miles. This zone gives exclusive rights to a coastal country to conserve, manage, and exploit all resources found therein. Law of the Sea, supra note 155, arts. 55-75. This zone also includes any "continental shelf" that may exist; which is also under the exclusive economic control of a bordering coastal state. Id. at art. 76. See Raclin, From Ice to Ether, supra note 39, at 740 n.83.

158 Polymetallic (also known as manganese) nodules are dark, potato-shaped rocks that exist on the floor of the world's oceans. Their mineral content varies, but generally includes nickel, copper, manganese, and cobalt. They are predominantly found in the Pacific, near the Baja peninsula and just south of Hawaii. Van Dyke & Yuen, supra note 19, at 496 n.7.

159 Law of the Sea, supra note 155, at arts. 156-69.

160 Id. at art. 170. See Raclin, From Ice to Ether, supra note 39, at 740.

161 Law of the Sea, supra note 155, at art. 137.2, Annex III.

162 Id.
quires the "equitable sharing of financial and other [informational and technological] benefits derived from resource recovery activities." Finally, the regime creates a "one-nation-one-vote" decision-making process for most major decisions. Many decisions require two-thirds to three-quarters of the votes. With probably less than eight of the treaty's parties likely to engage in deep seabed mining, they would be at the mercy of the third world.

The 1982 Law of the Sea Convention also establishes a system for dispute settlement. Article 186 of the Convention creates a Special Dispute Chamber of the International Tribunal for the Law of the Sea (the Chamber). The Chamber exists to resolve commercial and general conflicts arising from the exploration and exploitation of supranational seabeds and ocean floors. The developed countries have rejected this part of the 1982 Law of the Sea Convention because of the unfavorable terms of its regime. Specifically, there was concern that the treaty would deter development of the oceans' resources. The reasons for this belief should be obvious from the above description of the treaty. Those reasons include the equitable sharing requirement, technology sharing requirements, the vagueness of the common heritage principle, compulsory jurisdiction before a Seabed Disputes Chamber, as well as the cumbersome and expensive (annual fee of one million American dollars) licensing procedures.

163 Id. at art. 140.
164 See Raclin, From Ice to Ether, supra note 39, at 741.
166 Interview with Brian Hoyle, Director of the Office of Oceans' Laws, Bureau of Oceans and International Environmental and Scientific Affairs, U.S. Dept. State (July, 17, 1986) (quoted in Raclin, From Ice to Ether, supra note 39, at 742); See also Minola, supra note 146, at 466.
167 Law of the Sea, supra note 155, at art. 186.
169 Raclin, From Ice to Ether, supra note 39, at 742.
170 Developed countries have refused to submit to the Chamber for dispute resolution because it possesses compulsory jurisdiction. That is, the jurisdiction of the Chamber is "automatic for all parties to the Convention." Even though the treaty gives potential litigants a "free choice of means" in deciding what type of tribunal will resolve the dispute, the developed countries would never accept a binding determination by an international tribunal that can compel compliance. Williams, supra note 168, at 199-200.
171 Id. at 198-200.
The fear that it will mirror the 1982 Law of the Sea Convention has sufficiently frightened the developed countries away from ratifying the Moon Treaty. As such, the current Moon Treaty is not going to work. It has been eleven years since the General Assembly opened the treaty for ratification. The major industrialized nations have turned away from it. Unless a new treaty can be worked out, the developing countries will have no real options, and the developed countries will formulate their own cooperative agreements\textsuperscript{172} or act unilaterally.\textsuperscript{173}

4. Controversial Aspects of the Moon Treaty—Concerns of Developing Countries

The Moon Treaty is not only problematic for the developed countries. Several aspects of the treaty are potentially disadvantageous for underdeveloped countries, as well.

a. Failure to Achieve Equity

The international law concept of equity is a tool for achieving fairness and reasonableness.\textsuperscript{174} In achieving its goals, equity manifests itself in three ways: (1) it can be used to adapt existing law to a particular set of facts (equity \textit{infra legem}); (2) it can be used as a reason for refusing to apply an unjust law (equity \textit{contra legem}); and (3) it can be used to fill gaps in the law (equity \textit{praeter legem}).\textsuperscript{175} Unlike the Anglo-American view of equity as a judicial tool to remedy "wrongs,"\textsuperscript{176} the international theory of equity is based upon an attempt to create an overall

\textsuperscript{172} See \textit{supra} note 146 and accompanying text. Another example of cooperative space arrangements between developed countries is the European Space Agency (ESA). The members are Austria, Belgium, Denmark, France, Germany, Ireland, Italy, the Netherlands, Norway, Spain, Sweden, Switzerland, and the United Kingdom. For over a decade these countries have cooperated on numerous joint missions, including the provision of commercial launch services, and other significant undertakings. Raclin, \textit{International Cooperation in Commercial Activities in Outer Space, supra} note 42, at 238.

\textsuperscript{173} This alternative has been the general practice of the United States and the Soviet Union since Sputnik. However, it is unlikely that many other countries possess the technology or resources to explore or use space on their own.

\textsuperscript{174} BROWNLEE, \textit{supra} note 24, at 26.


\textsuperscript{176} Anglo-American equity is a general principle of law common to major legal systems, which is limited by the law itself. A common law court cannot do in equity that which is illegal in law. \textit{See BLACK'S LAW DICTIONARY} 341 (6th ed. 1990).
system of fairness.\textsuperscript{177} The developing nations take the position that existing disparities in living standards between developed and developing countries are unjust, that dramatic wealth and power redistribution is a prerequisite for equality of opportunity in the international community.\textsuperscript{178} International legal equity is an attempt to change the traditional imbalance between colonial powers and lesser developed countries.\textsuperscript{179}

For developing countries, the common heritage concept is an attempt to achieve equity \textit{praeter legem}\textsuperscript{180} through a New International Economic Order (NIEO).\textsuperscript{181} This application of equity is premised on equality, fairness, historical entitlement, capacity and need.\textsuperscript{182} In short, developing countries desire an “international and political structure in which all countries are both \textit{de jure} and \textit{de facto} equally sovereign powers sharing mankind’s resources on an equitable, as-needed basis.”\textsuperscript{183} In the eyes of the third world, the Moon Treaty, like the seabed provisions of the Law of the Sea Convention, is designed to be a tool for achieving equity in the area of resource distribution.\textsuperscript{184} They believe it is necessary to compensate for decades of domination and exploit-

\textsuperscript{177} Ervin, \textit{supra} note 12, at 429.

\textsuperscript{178} Bilder, \textit{supra} note 21, at 466.

\textsuperscript{179} Mau, \textit{supra} note 22, at 222; \textit{Restatement}, \textit{supra} note 6, § 102 cmt. m (1987).

\textsuperscript{180} In a sense, this form of equity is less a formal theory of law than a policy consideration. It relies on extra-legal issues. See Akehurst, \textit{supra} note 175, at 808. One author has noted that the subjective nature of developing country equity claims posses dangers. “Equity notions are subjective; their use will vary according to the attendant needs of the country employing the doctrine.” Mau, \textit{supra} note 22, at 226.

A prime example is the use of sovereignty. In the supra-national resources problem, sovereignty is rejected by the third world as a tool for preventing the “equitable” distribution of vital materials. However, when military intervention or the internal human rights of a third world nation is at stake, then all is subordinate to sovereignty. Mau, \textit{supra} note 22, at 226-27.


\textsuperscript{182} Mau, \textit{supra} note 22, at 226.

\textsuperscript{183} Id. at 227-28.

\textsuperscript{184} Id. at 243.
tation by the colonial powers. In theory, the Moon Treaty is a success; however, in practice it is a failure.

The Moon Treaty contains several "equity provisions," which theoretically exist to correct economic imbalance and social injustice that were caused and continue to be perpetuated by the industrialized nations. The primary examples of the Moon Treaty's equity provisions are the common heritage principle, the regime's equitable sharing requirement, and the emphasis on cooperation between nations in exploration and exploitation of the moon. To the extent that it embodies equity principles, the Moon Treaty has succeeded in articulating the revolutionary concepts of the NIEO in the ideological debate. However, there is a lack of continuity between the Moon Treaty's ideological pronouncements and its practical applications.

As indicated above, the potential for inequality, the fact that the developed countries will not ratify the treaty, and the uncertainty of the regime that will be created mean that, in practice, the current treaty has failed to prevent anything other than a "first come, first served" scenario of resource allocation that is repugnant to the third world and the NIEO.

Furthermore, the Moon Treaty's equity provisions are frustrated by textual inconsistencies. First, scientific research may be used to engage in "illegal" mining and use of resources. Article 6(2) is the only part of the treaty that allows for the

---

185 Kosmo, supra note 18, at 1080. See also infra text accompanying notes 204-10.
186 Bilder, supra note 21, at 466-67.
187 See Moon Treaty, supra note 3, at art. 11.
188 Minola, supra note 146, at 468.
189 Mau, supra note 22, at 250.
190 This view presented by the United States Representative to COPUOS on April 19, 1973:

The draft agreement . . . as part of the compromise made by many delegations, places no moratorium upon exploitation of the natural resources of the celestial bodies, pending the establishment of the international regime . . . The United States is not prepared to accept an express or implied prohibition on the possible natural resources before the international conference meets and agrees on appropriate machinery and procedures a treaty containing then take effect.

191 See supra text accompanying notes 55-57. It is also true that very few third world countries have signed the Moon Treaty. However, that is a product of the first world's rejection of the treaty and the dilution of the common heritage concept in the final draft which one could argue will lead to more global inequality.
192 See supra text accompanying notes 148-55.
193 See, Minola, supra note 146, at 469.
collection and removal of samples of the moon's minerals. However, that removal is limited to amounts appropriate for scientific research. The problem is that because the treaty does not define "scientific investigations" and "appropriate quantities," the treaty may create a gaping loophole for the "scientific" study of the types and quantities of minerals that are on the moon. Japan has used a similar loophole to count the number of whales in the ocean by killing them. Second, the prohibition against lunar appropriation may be circumvented by the "in place" clause. Article 11(3) denies property rights to the moon's minerals that are "in place." However, the obvious argument is that minerals that are not "in place" are not subject to the treaty. Natural resources that have been reduced to possession by the act of removing them from their original location are free to be exploited. This language opens the possibility of a state or private party extracting resources from the moon, claiming that those "removed minerals" are legally obtainable.

Third, Article XI's prohibition against national or corporate appropriation of lunar resources seems to be negated by a subsequent provision that allows for various activities usually associated with appropriation and property rights. The agreement allows for the establishment and ownership of the infrastructure necessary for a commercial exploitation program. Article 12(1) permits the placement of personnel, vehicles, equipment, installations, stations and facilities on or below the moon. Proscriptions against national appropriation and property rights seem to be illusory. Though Article XI explicitly rejects rights of national appropriation and property, it also specifically sanctions activities as if such rights did, in actuality, exist.

There is one last problem with the equity provision. Because the international law definition of equity is open to subjective
interpretation, it can be corrupted so that "fairness" and "redistribution of wealth" are considered mutually exclusive concepts. For example, developed countries might invoke the "equitable sharing" concept to justify excluding those countries that did not invest and participate in a particular mining project. This view is best illustrated by Stephen Doyle of the Office of Technology Assessment:

The key concept for realizing the use and benefits of space is equity. Benefits cannot flow to the indolent. Non-contributors can take no measure of satisfaction from the labors of others. Opportunities must be nondiscriminatory and there must be a possibility for all to contribute to and share in endeavors in space. But returns must reflect contributions. There is no "free lunch." Poor nations cannot rely on the equity provisions of the Moon Treaty. Seemingly distinctive terms like "equitable sharing" may be construed by nationalistic or corporate interests so that their true meaning is lost. As such, it is unlikely that the bulk of third world nations would adopt such a potentially lopsided treaty.

b. Neo-Neocolonialism

The poorer countries of the world are very familiar with colonialism. After experiencing colonialism and neocolonialism at the hands of the European empires, the third world had resolved to not allow that again. One of the intended purposes for the Moon Treaty was to prevent the type of destructive and conflict-marred colonialism that has plagued our planet for over four hundred years. In the past, colonizing nations "effect-

---

201 Griffin, supra note 73, at 762.
202 Stephen E. Doyle, Significant Developments in Space Law: A Projection for the Next Decade," 9 J. SPACE L. 105, 110 (1981). The absurdity of Doyle's position is made clear by his very next sentence: "The benefits of space are to be available to all nations ... that is agreed." It seems that he believes that by saying it that it will become true. He fails to realize that access to space is controlled by developed countries. So long as the first world controls access to outer space and its resources, the third world will never be able to "contribute" substantially to a mining project absent some arrangement.

203 See generally 7 ENCYCLOPEDIA AMERICANA 298-303 (1979). Some have suggested that there is no need for a Moon Treaty because a colonial framework is a desirable and effective model for lunar resource development. See, e.g., Myers, Political Considerations on Some Aspects of the Law of Outer Space, PROC. OF THE 18TH COLLOQUIUM ON THE LAW OF OUTER SPACE 66, 68 (1976).
tively' occupied and controlled territory to the exclusion of all others and then promulgated laws to govern the area. This resulted typically in a political and economic system based on the subordination of the dependent state and ongoing conflict to prevent other powers from supplanting the old government with a new government.

The Moon Treaty fails to prevent the colonialism it was designed to thwart. Prior to the adoption of a regime, some believe that the treaty permits a period of colonialism because of the diverging interpretations of the treaty's provisions. Each nation will be left to follow its own interpretation of the debatable provisions. Furthermore, the problem of colonialism will complicate the eventual negotiations to establish a regime. Because voting is "one-nation-one-vote," the developed countries (neo-neocolonialists) would be pitted, to their numerical disadvantage, against the developing countries (the earth-bound bystanders). The result would either be the adoption of a regime that the developed countries would reject or the failure of any

---

204 Webber, supra note 144, at 1431.

205 On earth, colonial powers were threatened, not only by existing colonial rivals, but also by indigenous revolutions from within. In the case of space colonization, confronting an indigenous uprising is not likely in this solar system, because we are unaware of any intelligent native populations on any of our sister planets. However, it is likely that if humans continue to expand outward they will encounter intelligent life, and that life will likely find it interesting that we have claimed outer space as the sovereign territory of the human race. Eugene Mallove, astronautical engineer at the M.I.T. Lincoln Laboratory has noted:

[T]he Galaxy may be teeming with life and technology. But even without relying upon detailed speculations as to the probabilities of planetary formation, chemical and biological evolution, and the rise of intelligence, technology, and the like, we can observe that, in all of nature's variety, there is no phenomenon that happens only once. With apparently billions of opportunities for life to arise in our galaxy alone, it would be astounding if we turned out to be the sole example of intelligent life.

Eugene Mallove, Renaissance in the Search For Galactic Civilizations, 87 Technology Review 1, 51 (Jan. 1984) (emphasis added) Other authors agree. See Stern, Cultures Beyond the Earth 38 (1st ed. 1975) ("There is a high probability that civilization is a universal phenomenon. . . Indeed, the available data . . . suggest[s] that life is a fairly commonplace occurrence in the universe . . . There are several billion planetary systems in the galaxy and, of them, about a billion worlds may be populated with their own varieties of living organisms."); Christian, Extraterrestrial Intelligence: The First Encounter 21 (1st ed. 1976) ("There is no valid rationale by which we can continue to hold that, as an intelligent organism, man is unique in the universe . . . It is a virtual certainty that extraterrestrial creatures who are intelligent, aware, and sagacious do, in fact, share our universe").

206 Webber, supra note 144, at 1441.

207 See supra note 164 and accompanying text.
regime to pass. The only other alternative is that the developed countries would force a colonial-type regime upon the third world, threatening them with total exclusion from space if they fail to capitulate. The only solution is to "insulate celestial bodies from the conflicts endemic to nationalism." By focusing on mankind and not nation-state considerations, a treaty and regime can be developed that will move forever away from colonial solutions.

II. FRAMEWORK FOR THE FUTURE: MOON TREATY II

The time has come for a workable treaty. We know what resources are available. Technologically, we are within reach of engaging in lunar and asteroidal mining programs. Most importantly, the very survival of humanity may depend on how swiftly space industrialization and mining occur.

A. An Arrangement is Needed

The celestial bodies of our solar system offer a vast amount of resources. We know what types of celestial resources are available from examination of asteroids and samples taken from the moon. It is generally accepted that there is a wealth

\[1992-93\] Moon Treaty 325
of exploitable elements and energy sources available in space, including oxygen, silicon, carbon, calcium, aluminum, iron, titanium, manganese, magnesium, chromium, water, nitrogen, and hydrogen. How large is the "wealth" of resources in space? It is effectively unlimited. The resources of space are so great that even the most backward third world country would find "an abundance" remaining when it finally reached space. For example, the removal of half a million tons of material from the lunar surface (a bulldozer working for five years) sounds large-scale. However, such an excavation would literally only "scratch the surface" of what is available for exploitation.

Technological and capital requirements are not an obstacle for the exploitation of celestial resources. For over ten years, humankind has been in a technological position to proceed with lunar resource development. Scientists have also identified techniques for capturing asteroids and mining them. The same industrial revolution that put life on the moon has the potential for taking life from the earth. Our planet is ravaged. The ozone layer, drinking water and Amazon depletion, greenhouse effect, acid rain, starvation, and overpopulation all create a gloomy outlook for the future.

Our only hope for preventing the inevitable destruction of the planet is to stop environmental degradation and overpopulation. Space resources are the solution. If used equitably, we can not only supply all humanity with food, shelter, and energy,
but also spare our threatened planet and permit its recovery from the ravages of the industrial revolution.\textsuperscript{221}

\textbf{B. A Proposal}

As is indicated throughout this paper, the current Moon Treaty is an ineffective solution to the dual problem of satisfying both the developed and underdeveloped countries. The goal is to create a treaty that will insure the rapid exploitation of space resources, while at the same time protecting the interests of those countries that are not developed enough to directly participate. The Moon Treaty should be amended. Only then can consensus be reached on laws to govern the exploitation of lunar and other celestial resources.

The following is a proposal for a new Moon Treaty that will attempt to satisfy the problems identified in this paper. Because many aspects of the original proposal are not controversial and need not be abandoned, the 1979 Moon Treaty is used as a foundation for the draft proposal, "Moon Treaty II." Additions to the original proposal are identified through the use of \textit{italics}. Deletions from the original treaty are identified through the use of \textsc{strike-outs}.

\textsuperscript{221} Oneill, \textit{supra} note 212, at 26. One study indicated that, if begun soon, commercial development of celestial resources could move nearly all our industrial activity away from Earth's fragile biosphere before 2075 A.D. \textit{Id.} at 32. Other predictions see world-wide impact early in the twenty-first century. \textit{See} Salmon, "Resupplying Spaceship Earth," \textit{The Global Predicament} 214 (1979); \textit{see also} Committee Print, \textit{supra} note 54, at 267 (lunar experimentation with this technology could begin in twenty years if billions of dollars are committed to the project).
DRAFT PROPOSAL

Agreement Governing the Activities of States on the Moon and Other Celestial Bodies

[MOON TREATY II]

The States Parties to this Agreement,

Noting the achievements of States in the exploration and use of the moon and other celestial bodies,

Recognizing that the moon, as a natural satellite of the earth, has an important role to play in the exploration of outer space,

Determined to promote on the basis of equality the further development of cooperation among States in the exploration, exploitation, and use of the moon and other celestial bodies,

Desiring to prevent the moon from becoming an area of international conflict,

Bearing in mind the benefits which may be derived from the exploitation of the natural resources of the moon and other celestial bodies,

Recalling the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space Including the Moon and Other Celestial Bodies, the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Liability for Damage Caused by Space Objects, and the Convention on Registration of Objects Launched into Outer Space,

Acknowledging the obligation of the developed States to facilitate the economic advancement of the poorer States through

222 This is added to avoid the ambiguity that may arise between the words “exploitation” and “use.” “Use” could potentially involve any activity on (or under) the surface of the moon. See BLACK’S LAW DICTIONARY 1710 (4th ed. 1957). “Exploitation” has a more specific meaning: “utilization by application of industry... or other means... as [in] the exploitation of a mine or a forest.” Id. at 689. See also WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY 801 (unabridged 1976) (“utilization or working of a natural resource”).

Undoubtedly, the term “use” in the 1979 treaty includes exploitation. Nevertheless, exploitation should be independently mentioned. First, the treaty has several official languages. See Moon Treaty, supra note 3, at art. 21. Second, nations have empirically used every opportunity to define controversial terms in the Moon Treaty to their advantage. See supra text accompanying notes 175-210. The risk that the word “use” might be defined as to exclude “exploitation” is too great. The impact of such a definition would be to destroy the integrity of the treaty as a resource regulation regime. See Fasan, Celestial Bodies and the Exploitative Use of Outer Space, 12 ANNALS OF AIR & SPACE L. 227, 229 (1987) (“...the meaning of ‘use’ and ‘appropriation’ might create a collision of rights over the question of the exploitation of celestial bodies...”).
the sharing of information, resources, and technology produced from space exploration, exploitation and use,

Keeping in mind the need to promote investment in space through a stable political environment,223

Taking into account the need to define and develop the provisions of these international instruments in relation to the moon and other celestial bodies, having regard to further progress in the exploration, exploitation,224 and use of outer space,

Have agreed on the following:

Article I

1. The Provisions of this agreement relating to the moon shall also apply to the 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.

2. For the purposes of this Agreement reference to the moon shall include orbits around or other trajectories to or around it.

3. This Agreement does not apply to extraterrestrial materials which reach the surface of the earth by natural means.

Article 2

All activities on the moon, including its exploration, exploitation,225 and use, shall be carried out in accordance with international law, in particular the Charter of the United Nations, and taking into account the Declaration on Principles of International Law Concerning Friendly Relations and Cooperation among States in accordance with the Charter of the United Nations, adopted by the General Assembly on 24 October 1970, in the interest of maintaining international peace and security

---

223 As is indicated throughout this paper, there are at least two competing philosophies on space property rights and obligations owed to other states. See supra text accompanying notes 17-30. The two sentences preceding this note were added to the treaty to promote both philosophies.

Some believe that profit motive and ameliorating third world concerns cannot be reconciled in one document. See generally Dula, supra note 145, at 16-18. Others, including myself, believe that equity is a two way street. Recognizing the debt owed to the third world, the treaty should manifest an attempt to overcome the perceived northern centrism and potential neo-neocolonialism without discouraging the capitalist community from developing space and its vast resources. See generally Mau, supra note 22, at 255.

224 See supra note 222 and accompanying text.

225 See supra note 222 and accompanying text.
and promoting international cooperation and mutual understanding, and with due regard to the corresponding interests of all other States Parties.

**Article 3**

1. The moon shall be used by all States Parties exclusively for peaceful purposes.

2. Any threat or use of force or any other hostile act or threat of hostile act on the moon is prohibited. It is likewise prohibited to use the moon in order to commit any such act or to engage in any such threat in relation to the earth, the moon, spacecraft, the personnel of spacecraft or human-made space objects.

3. States Parties shall not place in orbit around or other trajectory to or around the moon objects carrying nuclear weapons or any other kind of weapons of mass destruction or place or use such weapons on or in the moon.

4. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on the moon shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment of facility necessary for peaceful exploration, exploitation, and use of the moon shall also not be prohibited.

**Article 4**

1. The exploration, exploitation, and use of the moon shall be the province of all humankind and shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development. Due regard shall be paid to the interests of present and future generations as well as to the need to promote higher standards of living and conditions of economic and social progress and de-

---

226 Without belaboring the issue, the original treaty only refers to mankind and this addition is to act as a symbol of commitment to the equality of all people on the planet to share in the resources of outer space, regardless of gender. While, the term "mankind" probably refers to men and women (as the two components of mankind), that is not a certainty. See Webster’s Third New International Dictionary, supra note 222, at 1376. ("1: the human race: the totality of human beings... 2: Men as distinguished from women...").

227 See supra note 222 and accompanying text.

228 See supra, note 222 and accompanying text.

229 See supra note 227 and accompanying text.
development in accordance with the Charter of the United Nations.

2. States Parties shall be guided by the principle of cooperation and mutual assistance in all their activities concerning the exploration, exploitation,\(^{230}\) and use of the moon. International cooperation in pursuance of this Agreement should be as wide as possible and may take place on a multilateral basis, on a bilateral basis or through international intergovernmental organizations.

3. Prior to the creation of the regime to govern the exploitation of the moon's resources, as indicated in Article 11 of this Agreement, States Parties shall contribute to the development of underdeveloped States from any profits obtained through the exploitation of the moon's natural resources. This contribution shall take the form of a fee to be paid by any person, organization, government, corporation, or other entity that has engaged in the removal of any minerals from the moon or its subsurface. The amount of that support shall be 3.75% of the imputed value of the resources removed from any exploitation projects. This paragraph shall not be construed to mean that the international regime to be created pursuant to Article 11 of this Agreement shall be limited in its power to adjust the amount of profits to be contributed to the development of underdeveloped States Parties to this Agreement.\(^{231}\)

\(^{230}\) See supra note 223 and accompanying text.

\(^{231}\) This provision exists to insure that developed countries that are engaged in profitable space exploitation contribute a modicum of assistance to the development of third world nations, under the theory that third world nations are incapable of their own exploitation programs until they develop their economic and technological bases. See generally Mau, supra note 22, at 239-56.

The language giving the regime the discretion to revise the amount to be paid into the Moon Treaty Development Fund exists to give administrative flexibility to the regime, as the future permanent body with the authority to govern lunar resource exploitation.

The amount 3.75% was chosen so as to strike a balance between those that see lunar resources as common property and those that see lunar resources as merely accessible to all. The specific amount was derived from the Deep Seabed Mineral Resources Act. In that section there is a 3.75% tax imposed on the minerals extracted from the seabed. 26 U.S.C. § 4495(b) (1990). The rationale for choosing the same amount for the draft Moon Treaty is that if 3.75% is an amount that the most developed capitalist space power is willing to tax its own citizens for seabed mining, then the same amount would be acceptable as a space exploitation tax. The following is the Deep Seabed Mineral Resources Act section that was used to determine the amount levied through the draft proposal:

UNITED STATES CODE ANNOTATED
TITLE 26. INTERNAL REVENUE CODE
SUBTITLE D—MISCELLANEOUS excise taxes
4. The revenue generated pursuant to paragraph 3 of this article shall be deposited in a bank chosen by and at the discretion of the Secretary-General. The deposited revenues shall be designated the "Moon Treaty Development Fund." The Moon Treaty Development Fund is to be distributed to underdeveloped States Parties through a moon treaty subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS). The subcommittee shall be composed of a representative from each State Party. COPUOS is free to promulgate rules for the fair use and distribution of the Moon Treaty Development Trust Fund and the effective administration of paragraphs 3 and 4 of this article, as long as the rules are consistent with this Agreement.

Article 5

1. States Parties shall inform the Secretary-General of the United Nations as well as the public and the international sci-
entific community, to the greatest extent feasible and practicable, of their activities concerned with the exploration, exploitation, and use of the moon. Information on the time, purposes, locations, orbital parameters and duration shall be given in respect of each mission to the moon as soon as possible after launching, while information on the results of each mission, including scientific results, shall be furnished upon completion of the mission. In the case of a mission lasting more than sixty days, information on conduct of the mission, including any scientific results, shall be given periodically, at thirty-day intervals. For missions lasting more than six months, only significant additions to such information need be reported thereafter.

2. If a State Party becomes aware that another State Party plans to operate simultaneously in the same area of or in the same orbit around or trajectory to or around the moon, it shall promptly inform the other State of the timing of and plans for its own operations.

2A. State Parties engaged in the exploitation or use of an area on the moon or in its orbit can prevent simultaneous operations by another State Party in the same area for one year from the time that mutual use of that area is formally requested. A formal request is one that is delivered in writing to a State Party, with a copy being delivered to the Secretary-General.

3. In carrying out activities under this Agreement, States Parties shall promptly inform the Secretary-General, as well as the public and the international scientific community, of any phenomena they discover in outer space, including the moon, which could endanger human life or health, as well as any indication of organic life.

Article 6

1. There shall be freedom of scientific investigation on the moon by all States Parties without discrimination of any kind, on the basis of equality and in accordance with international law.

2. In carrying out scientific investigations and in furtherance of the provisions of this Agreement, the States Parties shall

---

234 See supra note 222 and accompanying text.
235 This provision was added to allow states an opportunity to engage in exploitation of areas that they have identified, at their own expense, as mineral rich, while at the same time recognizing the inherent right of all state parties to engage in exploitation of any materials that are the common heritage of mankind.
have the right to collect on and remove from the moon samples of its mineral and other substances. Such samples shall remain at the disposal of those States Parties which caused them to be collected and may be used by them for scientific purposes. States Parties shall have regard to the desirability of making, upon the request of a State Party, and if reasonably available, make a portion of such samples available to other interested States Parties and the international scientific community for scientific investigation. States Parties may in the course of scientific investigations also use mineral and other substances of the moon in quantities appropriate for the support of their missions.

2A. Paragraph 2 of this article shall in no way be construed as to impose an implied or explicit moratorium on the exploration, exploitation, or use of the moon.

3. States Parties agree on the desirability of exchanging scientific and other personnel on expeditions to or installations on the moon to the greatest extent feasible and practicable.

4. Feasibility and practicability shall not be construed to mean that a State Party may deny information merely because it is not in its interest to do so.

Article 7

1. In exploring and using the moon, States Parties shall take measures to prevent the disruption of the existing balance of its environment, whether by introducing adverse changes in that environment, by its harmful contamination through the introduction of extra-environmental matter or otherwise. States Parties shall also take measures to avoid harmfully affecting the environment of the earth through the introduction of extraterrestrial matter or otherwise.

---

236 The deleted language did not require a state party to provide scientific samples upon request. The added language requires sharing of materials, but leaves open the possibility that unreasonable requests need not be honored.

237 As is indicated above, many believed that the current treaty created either a legal or de facto moratorium on the space exploitation pending the creation of an international regime. See supra notes 139-46 and accompanying text.

238 As is true with any international agreement, it is difficult to enforce provisions that require states to act in ways that are not to their immediate benefit. However, states are required to act in good faith. Article 26 of the Vienna Convention on the Law of Treaties prescribes: "every treaty in force is binding upon all parties to it and must be preformed in good-faith." Vienna Convention on the Law of Treaties, supra note 15, at art. 26.
2. States Parties shall inform the Secretary-General of the United Nations of the measures being adopted by them in accordance with paragraph 1 of this article and shall also, to the maximum extent feasible, notify him in advance of all placements by them of radioactive materials on the moon and of the purposes of such placements.

3. States Parties shall report to other States Parties and to the Secretary-General concerning areas of the moon having special scientific interest in order that, without prejudice to the rights of other States Parties, consideration may be given to the designation of such areas as international scientific preserves for which special protective arrangements are to be agreed upon in consultation with the competent bodies of the United Nations.

Article 8

1. States Parties may pursue their activities in the exploration, exploitation,\(^239\) and use of the moon anywhere on or below its surface, subject to the provisions of this Agreement.

2. For these purposes States Parties may, in particular:
   (a) Land their space objects on the moon and launch them from the moon;
   (b) Place their personnel, space vehicles, equipment, facilities, stations and installations anywhere on or below the surface of the moon. Personnel, space vehicles, equipment, facilities, stations, and installations may move or be moved freely over or below the surface of the moon.
   (c) Engage in the exploration, exploitation, and use of the moon anywhere on or below its surface.\(^240\)

3. Activities of States Parties in accordance with Paragraph 1 and 2 of this article shall not interfere with the activities of other States Parties on the moon, except as provided in Article 5, paragraph 2A of this Agreement or subject to regulations imposed by the regime to be created subject to Article 11.\(^241\) Where such interference may occur, the States Parties concerned shall undertake consultations in accordance with Article 15, paragraphs 2 and 3 of this Agreement.

---

\(^{239}\) See supra note 223 and accompanying text.

\(^{240}\) This was added so there is no misunderstanding that developed countries are legally allowed to engage in the complete use of the moon and its resources prior to the creation of a regime.

\(^{241}\) See supra text accompanying note 236.
Article 9

1. States Parties may establish manned and unmanned stations on the moon. A State Party establishing a station shall use only that area which is required for the needs of the station and shall immediately inform the Secretary-General of the United Nations of the location and purposes of that station. Subsequently, at annual intervals that state shall likewise inform the Secretary-General whether the station continues in use and whether its purposes have changed.

2. Stations shall be installed in such a manner that they do not impede the free access to all areas of the moon of personnel, vehicles and equipment of other States Parties conducting activities on the moon in accordance with the provisions of this Agreement or of Article I of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

3. States Parties that build stations, installations, and any other facilities shall make them available to any requesting States Parties, after being given sufficient notice. As such, in building and setting up stations, facilities, and installations, States Parties shall make arrangements for facilitating the needs of potential requesting States Parties. Arrangements shall include but are not limited to provisions for food, shelter, safety, health, access to research and research facilities, as well as assistance and training so as to help underdeveloped States Parties become self-sufficient in the exploration, exploitation, and use of the moon, its surface, and subsurface.

4. States Parties that are invited into stations, facilities, or installations by any State Party are under obligation to disclose the purpose of their entry and disclose the products of any of their exploration, exploitation, or use of the moon or its subsurface, while using the station, facility, or installation.

---

242 Consistent with the notions that the third world is under-developed, in part, because of the past colonial domination of their societies, and that by providing opportunities for space research and development, they will move closer to their own independent exploitation programs, this paragraph was added to provide those opportunities for advancement necessary for self-sufficiency in space exploitation. See supra text accompanying notes 204-10.

243 This section requires the visiting third world delegation to disclose the product of their mission while guests in another state's lunar post. It would not be fair to require developed states to provide third world states access to their own information and facilities without requiring quid pro quo.
Article 10

1. States Parties shall adopt all practicable measures to safeguard the life and health of persons on the moon. For this purpose they shall regard any person on the moon as an astronaut within the meaning of Article V of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space Including the Moon and Other Celestial Bodies and as part of the personnel of a spacecraft within the meaning of the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.

2. States parties shall offer shelter in their stations, installations, vehicles and other facilities to persons in distress on the moon. This paragraph shall not be construed to limit the obligations of parties under Article 9, paragraphs 3 or 4.244

Article 11

1. The moon and its natural resources are the common heritage of humankind,245 which finds its expression in the provisions of this Agreement, in particular in paragraph 5 of this article.246 The common heritage of humankind shall be construed to identify those areas that are not subject to appropriation, that call for a management system where all States participate, that imply a sharing of at least some of the benefits derived from the exploration, exploitation, and use of the area, and that the area is to be used exclusively for peaceful purposes.247 It is further understood that the common heritage of humankind concept recognizes:

(a) the absence of private ownership rights in the property deemed to be the common heritage of humankind;

\[\text{See supra text accompanying notes 243-44.}\]
\[\text{See supra text accompanying note 227.}\]
\[\text{One of the problems with the original agreement is the lack of a firm definition of the common heritage concept. See supra text accompanying note 119-34. Instead of operationally defining common heritage of mankind, the proposed revision creates an independently standing definition that is an attempt to bring together the concerns of all potential parties to the agreement.}\]
\[\text{It is extremely difficult to come up with a consensus definition of common heritage of humankind. The definition proposed in the treaty proposal is an attempt to identify those areas where there is some agreement. See Williams, supra note 168, at 200.}\]
(b) access to property deemed to be the common heritage of human kind; \(248\)

(c) the equitable sharing of benefits flowing from the exploration, exploitation, or use of property deemed to be the common heritage of humankind; \(249\)

(d) recognition of the rights of States Parties to explore, exploit and use property deemed to be the common heritage of humankind. \(250\)

2. The moon is not subject to national appropriation by any claim of sovereignty, by means of use or occupation, or by any other means.

3. Neither the surface nor the subsurface of the moon, nor any part thereof or natural resources in place; \(251\) shall become property of any State, international intergovernmental or non-

\(248\) The rejection of private property ownership and the recognition that states have access to all areas that are the common heritage of humankind is an attempt to satisfy the above discussed concerns of both the first and third worlds. See supra text accompanying notes 119-210.

\(249\) It should be noted that developing countries had originally insisted that the "equitable sharing" concept includes distribution of celestial resources without regard to the amount of effort contributed by a particular state. See Committee Print, supra note 54, at 13-14. This concept, predictably is unacceptable to the capitalist community. See Mau, supra note 22, at 257-58 (appendix — advertisement by United Technologies Corporation). The language in the draft proposal views equitable sharing as a balance between the needs of the developed and under-developed nations. "Opportunities must be non-discriminatory and there must be a possibility for all to contribute to and share in endeavors in space. Returns, however, must reflect contributions." See Martin Menter, Commercial Space Activities Under the Moon Treaty, 7 SYRACUSE J. INT'L L. & COM. 213, 233 (1980) (quoting S. Doyle from a paper presented at a symposium at the University of Mississippi Law Center, April 21, 1980). The benefits reaped from exploitation of the moon should consider the amount of effort and energy that a party contributed. Nevertheless, the revised Moon Treaty provides for an indirect sharing of the benefits derived from the moons resources, through the access and trust fund provisions. See supra text accompanying notes 232-33.

\(250\) The right to "explore, exploit, and use" the moon is recognized in the draft proposal as part of the common heritage concept. This was added to relieve any concern, that a moratorium might be imposed once the international regime is created. Some believe that a regime dominated by third world nations might lock-up space resources. See Mau supra note 22, at 258. However, by inserting it into the common heritage concept, "exploration, exploitation, and use" cannot be restricted absent repeal of the treaty itself.

\(251\) The term "in place" in the Moon treaty is controversial. Developing states believe, that the language allowed ownership rights for any property that has already been extracted from the moon. See supra notes and accompanying text. However, the only reason it would be controversial is if there is a problem with exploiting the resources on or under the surface of the moon. That is no longer a problem because states may now exploit celestial resources, subject to the restrictions and obligations imposed in the draft proposal.
governmental organization, national organization or non-governmental entity, or of any natural person. The placement of personnel, space vehicles, equipment, facilities, stations, and installations on or below the surface of the moon, including struggles connected with its surface or subsurface, shall not create a right of ownership over the surface or subsurface of the moon or any areas thereof. The foregoing provisions are without prejudice to the international regime referred to in paragraph 5 of this article.

4. States Parties have the right to exploration, exploitation,222 and use of the moon without discrimination of any kind, on the basis of equality and in accordance with international law and the provisions of this Agreement.

5. States Parties to this Agreement hereby undertake to establish an international regime, including appropriate procedures, to govern the natural resources of the moon as such exploitation is about to become feasible. This provision shall be implemented in accordance with Article 18 of this Agreement.

6. In order to facilitate the establishment of the international regime referred to in paragraph 5 of this article, States Parties shall inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of any natural resources they may discover on the moon.

7. The main purposes of the international regime to be established shall include:

(a) the orderly and safe development of the natural resources of the moon;

(b) the rational management of those resources;

(c) the expansion of opportunities in the use of those resources;

(d) 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 or exploitation223 of the moon, shall be given special consideration. Equitable sharing, in the context of this Agreement, does not mean the dramatic wealth and power redistribution that is a prerequisite for any meaningful equality in

---

222 See supra note 223 and accompanying text.
223 See supra note 223 and accompanying text.
the international community. However, equitable sharing does require a distribution of some of the benefits from the exploration, exploitation, and use of the moon and its resources to the poorer States Parties to this Agreement. Until an international regime is established, equitable sharing shall be limited to the provisions of paragraphs 3 and 4 of Article 9, paragraph 3 of Article 4, and Article 6 of this Agreement.254

(e) the maintenance of the moon and its resources as the common heritage of humankind.255

7A. The international regime to be created pursuant to this article shall engage in the regulation of States Parties and activities in the exploration, exploitation, and use of the moon and its natural resources. The regime shall include regulations on, among other matters:256

(a) Licenses for exploration of the moon and its resources and permits for exploitation and use of recovered resources — including application, duration, review, fees, conditions and restrictions, priority of issuance, denial, suspension, revocation, and modification;

(b) diligence of States Parties engaged in resource recovery;

(c) protection of the environment;
(d) interference with other resource recovery programs;
(e) records and Public Disclosure; and

254 The purpose of this paragraph is to insure that equity guides the distribution of resources prior to the creation of the regime. Equitable sharing is defined in the paragraph, indicating a balance between the interests of developed and under-developed states. For an analysis of equity and equitable sharing, see supra text accompanying notes 175-203.

255 This paragraph is in the draft proposal is to insure that resources extracted under the auspices of the international authority are governed by the common heritage principle.

256 The uncertainty as to the type of regime that is to be created is a major concern of the developed states. See supra notes and accompanying text. This addition is an attempt to provide some information about the regime before it is created.

Only a regime divorced from terrestrial conflicts can effectuate the goals of both the developed and under-developed states. Webber, supra note 144, at 1450. Some believe that such a regime should be created now. Carl Q. Christol, The Modern International Law of Outer Space 42, 252 (1982). The draft proposal is limited to a basic sketch of what a regime would include. Any in-depth regime would be too speculative at this time. Too many issues have not been debated and resolved by the world community. For example, there is no consensus on the type of decision-making body that will govern the regime, the type and weight of voting on regime issues, jurisdiction, the regime's major functions, and the amount of national sovereignty to be sacrificed to the regime. See generally Webber, supra note 144, at 1450-55.
(f) enforcement and dispute resolution. 257

8. All the activities with respect to the natural resources of the moon shall be carried out in a manner compatible with the purposes specified in paragraph 7 of this article and the provisions of Article 6, paragraph 2, of this Agreement.

Article 12

1. States Parties shall retain jurisdiction and control over their personnel, space vehicles, equipment, facilities, stations, and installations on the moon. The ownership of space vehicles, equipment, facilities, stations, and installations shall not be affected by their presence on the moon.

2. Vehicles, installations and equipment or their component parts found in places other than their intended location shall be dealt with in accordance with Article 5 of the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.

3. In the event of an emergency involving a threat to human life, States Parties may use the equipment, vehicles, installations, facilities or supplies of other States Parties on the moon. Prompt notification of such use shall be made to the Secretary-General of the United Nations or the State Party concerned.

Article 13

A State Party which learns of the crash landing, forced landing or other unintended landing on the moon of a space object, or its component parts, that were not launched by it, shall promptly inform the launching State Party and the Secretary-General of the United Nations.

Article 14

1. States Parties to this Agreement shall bear international responsibility for national activities on the moon, whether such activities are carried out by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in this Agreement. States Parties shall ensure that non-governmental entities under their jurisdiction shall engage in activities

257 These areas of regulation were derived from Law of the Sea and the Internal Revenue Code on Deep Seabed Mineral Resources. See generally Law of the Sea, supra note 155; Deep Seabed Hard Minerals Resources Act, supra note 231.
on the moon only under the authority and continuing supervision of the appropriate State Party.

2. States Parties recognize that detailed arrangements concerning liability for damage caused on the moon, in addition to the provisions of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space Including the Moon and Other Celestial Bodies and the Convention on International Liability for Damage Caused by Space Objects, may become necessary as a result of more extensive activities on the moon. Any such arrangements shall be elaborated in accordance with the provisions provided for in Article 18 of this Agreement.

Article 15

1. Each State Party may assure itself that the activities of other States Parties in the exploration, exploitation, and use of the moon are compatible with the provisions of this Agreement. To this end, all space vehicles, equipment, facilities, stations, and installations on the moon shall be open to other States Parties. Such States Parties shall give reasonable advance notice of a projected visit; order that appropriate consultations may be held and that maximum precautions may be taken to assure safety and to avoid interference with normal operations in the facility to be visited. In pursuance of this article, any State Party may act on its own behalf or with the full or partial assistance of any other State Party or through appropriate international procedures within the framework of the United Nations and in accordance with the Charter.

2. A State Party which has reason to believe that another State Party is not fulfilling the obligations incumbent upon it pursuant to this Agreement or that another State Party is interfering with the rights which the former State has under this Agreement may request consultations with that State Party. A State Party receiving such a request shall enter into such consultations without delay. Any other State Party which requests to do so shall be entitled to take part in the consultations. Each State Party participating in such consultations shall seek a mutually acceptable resolution of any controversy and shall bear in mind the rights and interests of all States Parties. The Secretary-

258 See supra note 223 and accompanying text.
General of the United Nations shall be informed of the results of the consultations and shall transmit the information received to all States Parties concerned.

3. If the consultations do not lead to a mutually acceptable settlement which has due regard for the rights and interests of all State Parties, the parties concerned shall take all measures to settle the dispute by other peaceful means of their choice. If difficulties arise in connexion [sic] with the opening of consultations or if consultations do not lead to a mutually acceptable settlement, any State Party may seek the assistance of the Secretary-General, without seeking the consent of any other State Party concerned, in order to resolve the controversy. A State Party which does not maintain diplomatic relations with another State Party concerned shall participate in such consultations, at its choice, either itself or through another State Party with the Secretary-General as intermediary.

Article 16

With the exception of Articles 17 to 21, references in this Agreement to States shall be deemed to apply to any international intergovernmental organization which conducts space activities if the organization declares its acceptance of the rights and obligations provided for in this Agreement and if a majority of the States members of the organization are States Parties to this Agreement and to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space Including the Moon and Other Celestial Bodies. States members of any such organization which are States Parties to this Agreement shall take all appropriate steps to ensure that the organization makes a declaration in accordance with the foregoing.

Article 17

Any State Party to this Agreement may propose amendments to the Agreement. Amendments shall enter into force for each State Party to the Agreement accepting the amendments upon their acceptance by a majority of the States Parties to the Agreement and thereafter for each remaining State Party to the Agreement on the date of acceptance by it.

Article 18

Ten years after the entry into force of this Agreement, the question of the review of the Agreement shall be included in the provisional agenda of the General Assembly of the United Nations
in order to consider, in the light of past application of the Agreement, whether it requires revision. However, at any time after the Agreement has been in force for five years, the Secretary-General of the United Nations, as depositary, shall, at the request of one third of the States Parties to the Agreement and with the concurrence of the majority of the States Parties, convene a conference of the States Parties to review this Agreement. A review conference shall also consider the question of the implementation of the provisions of Article 11, paragraph 5, on the basis of the principle referred to in paragraph 1 of that article and taking into account in particular any relevant technological developments.

*Article 19*

1. This Agreement shall be open for signature by all States at United Nations Headquarters in New York.
2. This Agreement shall be subject to ratification by signatory States. Any State which does not sign this Agreement before its entry into force in accordance with paragraph 3 of this article may accede to it at any time. Instruments of ratification or accession shall be deposited with the Secretary-General of the United Nations.
3. This Agreement shall enter into force on the thirtieth day following the date of deposit of the fifth instrument of ratification.
4. For each State depositing its instrument of ratification or accession after the entry into force of this Agreement, it shall enter into force on the thirtieth day following the date of deposit of any such instrument.
5. The Secretary-General shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or accession to this Agreement, the date of its entry into force and other notices.

*Article 20*

Any State Party to this Agreement may give notice of its withdrawal from the Agreement one year after its entry into force by written notification to the Secretary-General of the United Nations. Such withdrawal shall take effect one year from the date of receipt of this notification.

*Article 21*

The original of this Agreement, of which the Arabic, Chi-
inese, English, French, German, Japanese,\textsuperscript{259} Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations, who shall send certified copies thereof to all signatory and acceding States.

IN WITNESS WHEREOF the undersigned, being duly authorized thereto by their respective Governments, have signed this Agreement, opened for signature at New York on December 31, 1990.

CONCLUSION

This paper is an attempt to reconcile the diverging interests of the developed and underdeveloped states in the creation of a lunar resource agreement. Both developed and underdeveloped states have refused to ratify the current Moon Treaty. It is my position that clearing up ambiguous concepts and recognizing the concerns of all interested parties in the text of a moon treaty are the first steps toward reconciling the competitive concerns of developed and underdeveloped states over the exploitation of the moon and other celestial bodies.

In the twelve years since the General Assembly sent the Moon Treaty to the states for ratification, no major space power and few developing countries have agreed to sign.\textsuperscript{260} It is my hope that Moon Treaty II is used as a starting point for a new round of negotiations on the future of the moon and its resources. The future of our planet, and possibly our existence, are at stake.\textsuperscript{261}

\textsuperscript{259} This is added in recognition of the leading role that Japan plays in the technology and economic world and of the role that Germany is expected to play in the near future.

\textsuperscript{260} See supra notes 256-58 and accompanying text.

\textsuperscript{261} The new order, to which space policy should ultimately strive, should not only focus on the ultimate benefits to be derived by all mankind — as they have a subjective connotation and may, sometimes, be less promising than expected — but rather on a continuous effort to assure humanity's survival. This might produce the necessary ultimate solidarity of mankind and hope to avoid possible star wars by a gradual transfer of military technology to international civil use. The alternative is eternal silence. Matte, supra note 55, at 335 (quoting Nicolas Matte, Space Programmes Today and Tomorrow: The Vanishing Duopole 130 (1980)).