A SURVEY OF LUNAR PROPERTY LAW

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ABSTRACT

A grant of title to an individual is the function of the state that claims sovereignty over the land. No state has claimed sovereignty over Earth's Moon, and thus none may grant good title to any portion of it. There are five international law doctrines that allow sovereign states to acquire territory - conquest, cession, prescription, accretion and discovery - and two classes of land that are immune to sovereign claim: *Res Communis* (community property), and *Res Nullius* ("no-man's land"), which are illustrated by Antarctica and the High Seas respectively. The five principal U.N. multilateral space treaties are reviewed with particular attention to the 1967 Outer Space Treaty and the 1979 Moon Treaty; treaty enforcement provisions severely limit states seeking to prosecute foreign nationals for perceived violations of international treaty provisions (e.g., lunar resource exploitation). An alternative basis for prosecution may be available using the "universal jurisdiction" doctrine on piracy, but only if the Moon is classified as *Res Communis* and lunar mining construed to constitute "depredation." The 1967 Outer Space Treaty is characterized as a *Res Nullius* -style agreement; the 1979 Moon Treaty is characterized as *Res Communis*. Very few states have ratified the Moon Treaty, however.

I. OVERVIEW

One mission of the Lunar Prospector Probe of Space Studies Institute will be to locate the most promising areas on the lunar surface for building a manned lunar base. As soon as feasible, and preferably before commencing construction, title to this "prime" lunar real estate should be obtained, as any business enterprise planning to develop land should first have good title to that area lest its investment in improvements be put severely at risk. Unfortunately, there is no clear authority, sovereign or multinational, that is capable under international law of granting title at this time. This paper shall explore the legal aspects surrounding this issue by discussing the international legal doctrines for both sovereign acquisition of territory and for territory immune to sovereign claim, current space treaty law and their enforcement provisions, and an enforcement alternative under a recognized international doctrine of "universal" jurisdiction, and then analyze the relevant treaties in a lunar context to determine the Moon's legal status under international law.

II. PROPERTY LAW

The term "property" is defined by Black's Law Dictionary as "...(T)hat which belongs exclusively to one. In the strict legal sense, an aggregate of rights which are guaranteed and protected by the government." A grant of title to an individual for a particular piece of land is the function of the sovereign state that has (or claims) control over that territory. Since Earth's Moon currently has no claims of sovereignty upon it, there is no authority one can approach to obtain good title. Any state that would seek to grant such title to lunar real estate would need to first acquire that territory.

III. INTERNATIONAL LEGAL DOCTRINES

If an existing sovereign state was to seek to acquire additional territory, international law generally provides five doctrines under which this can be done: Conquest, Cession, Prescription, Accretion and Discovery.[2] The doctrine of Conquest, or Subjugation, is the forcible taking and formal annexation of enemy territory in time of war.[3] Cession of sovereign territory entails a diplomatic settlement, by treaty, whereby one state transfers sovereignty of its territory to another.[4] The Philippine Islands, for example, were ceded to the United States by Spain in 1898 at the conclusion of the Spanish-American War. Prescription is analogous to the property law concepts of adverse possession or "squatter's rights." If a state openly and notoriously establishes a colony in the territory belonging to another, and that other state fails to take action after a reasonable period of time, then the colonizing state obtains sovereignty over the land it has settled.[5] An example of this can again be found in the Philippine Islands, in which the Spanish forces failed to patrol the archipelago and a Dutch colony was able to establish and maintain itself on Las Palmas Island for many years, undisturbed until discovered by arriving American forces.[6] Accretion is the doctrine that recognizes additions to current territory through alluvial or other natural (or man-made) processes. This includes such processes as the gradual accretion of shorelines by natural tidal action.[7]

The doctrines of Conquest, Cession and Prescription presuppose that the territory in question previously belonged to another sovereign state. Accretion is a limited doctrine, allowing only the expansion of one's existing boundaries but not the acquisition of unattached territory. The doctrine of Discovery, however, is a means by which a state may acquire remote territory that has not been claimed by another.

The doctrine of Discovery has evolved over time. From the "Age of Discovery" to the 1800's, it was not necessary to set foot on the claimed territory; a claim based on a sovereign's authorized representative sighting a previously unknown land, naming this new land, accurately mapping its location, and returning to port with this information would be sufficient.[8] This type of claim was subject to

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some limitations on size (one could not claim all of North America, for instance), and could be superceded by the symbolic and/or actual occupation by another sovereign. Symbolic occupation entailed landing on the claimed territory and leaving a marker or flag indicating the claim of sovereignty.[9]

Under the present law, Discovery alone grants only an "inchoate title" to the discovering state, which temporarily bars other states from attempting to possess the territory.[10] Sovereignty is not established by the claim alone ("possession"), but by the combination of possession and *administration* of the territory. Failure to establish a governing administration will void the claim. Symbolic or "effective" occupation is no longer sufficient.[11] Thus, Prescription may be seen as a doctrine for transferring sovereignty from the state that failed to administer properly a territory to one that has proven that it will do so.

The principles of Discovery may be applied to the case of Earth's Moon. The first sovereign state to "sight" the Moon first was undoubtedly one of the early civilizations in the Fertile Crescent, or perhaps China. The Moon's location was not accurately mapped, arguably, until Newton's time. No modern sovereign, however, has claimed title to the Moon by virtue of "sighting" it "first," or of having succeeded to such a claim from a prior government.

Two sovereign states have sent potentially authorized missions to Earth's Moon: the U.S.S.R. and the United States of America. The Soviet Union landed on the Moon first, with an unmanned robotic probe that planted a plaque. The United States, however, landed the first man, who planted a flag. Neither country has seen fit at this juncture to claim, on this basis, sovereignty over some or all of the Moon. In fact, the first United States astronaut to touch lunar soil claimed the Moon "for all mankind." The precise legal meaning and consequences of this claim have yet to be determined. Establishing a colony would provide a clear basis for a claim of sovereignty over at least the land under the colony; however, to do so would require that the colonizing enterprise act with the authorization of a sovereign state prepared to make such a claim.

There are two types of territory that are immune to claims of sovereignty. These are *Res Communes* (community property), and *Res Nullius* ("no-man's land").

IV. *RES COMMUNES* AND ANTARCTICA

Black's Law Dictionary defines *Res Communes* as follows: "In the civil law, things common to all; that is, those things which are used and enjoyed by everyone, even in single parts, but can never be exclusively acquired as a whole, e.g., light and air."

The 1959 Antarctica Treaty is representative of a *Res Communes*-style multinational agreement. So long as this Treaty is in force, no existing claims of sovereignty can be exercised and no new claims will be allowed.[12] The treaty participants were dedicated to the utilization of Antarctica for peaceful purposes for the benefit of mankind, and they successfully resolved that no military projects would be pursued.[13]

Management of the treaty is to be carried out by the "consultive parties" and the privilege of becoming a consultive party is reserved to those nations deemed to have conducted "substantial scientific research activities." The principal reason given for limiting management participation is to ensure against environmental disaster:

> ... This is precisely the reason why participation in Antarctic activities has to be selective, involving only those who have the backing of a solid professional capability. We cannot run the risk of failure in activities carried out in Antarctica because the damage which such a failure might entail could well be of catastrophic proportions.[14]

The treaty has come under recent attack by developing nations that wish to participate - albeit not in scientific research, but in mineral exploitation.

As the extent of Antarctica's store of minerals has been uncovered, it has attracted increased attention from nations that cannot afford to participate in the collection of those resources. Developing countries are well aware that the participating nations are working towards an arrangement to administer Antarctica's assets.

When the Treaty was being drafted in the late 1950's, it seemed to the negotiators that any mineral bounty Antarctica might possess lay locked within an environment that would make exploitation prohibitively expensive. Since there seemed to be minimal opportunity for commercial interests, it seemed appropriate to consider the sovereignty question merely in terms of militarization and scientific research. Within the last twenty years, however, there has been a more optimistic appreciation of Antarctic mineral potentials. In 1973, a U.S. Geological Survey estimated that there existed 45 billion barrels of petroleum as well as 115 trillion cubic feet of natural gas with the Ross, Weddell and Bellingshausen Seas.[15]

Developing countries have expressed concern over the potential depletion of Antarctic minerals through anticipated mining operations. Other countries, notably Australia and France, favor a permanent ban on mining for environment reasons.[16] In November 1990 President Bush signed a moratorium that forbade all U.S. firms from engaging in any commercial mineral activity (including prospecting) until a negotiated solution can be reached.[17] Subsequently, in April 1991 the Consultive Parties have agreed to a 50-Year mining moratorium for the region. The U.S. Congress, however, must still ratify this latest agreement.[18]

V. *RES NULLIUS* AND THE HIGH SEAS

Black's Law Dictionary defines *Res Nullius* as follows: "The property of nobody. A thing which has no owner, either because a former owner has finally abandoned it, or because it has never been appropriated by any person, or because (in the Roman Law) it is not susceptible of private ownership."

The 1958 High Seas Convention is representative of a *Res Nullius*-style multinational agreement. The high seas are open to all nations, and no claims of sovereignty over any region of the High Seas will be recognized.[19] This treaty also enumerates the freedoms of the high seas that all states may exercise, so long as such are conducted with respect for rights of others. Unlike the 1959 Antarctica Treaty, however, there is no central governing body controlling or authorizing activities to be conducted on the high seas. Instead, there is an obligation upon signatory states not to interfere with the activities of others, and to refrain from activities that may cause damage to the environment. Deep seabed mining is considered to be a freedom of the high seas.

Certain states, particularly developing countries, have expressed their concern over the potential depletion of deep seabed minerals through mining activities of states that are more technically advanced. This concern was explicitly expressed in the 1982 U.N. Convention on the Law of the Sea, which excluded deep seabed mining and related activities from its enumeration of freedoms of the high seas.[20]

On July 9, 1982, President Reagan issued the following statement regarding the Third United Nations Law of the Sea Conference's final version of the 1982 Convention on the Law of the Sea:

> We have now completed a review of that convention and recognize that it contains many positive and very significant accomplishments. . . . Our review recognizes, however, that the deep seabed mining part of the Convention does not meet United States objectives. For this reason, I am announcing today the United States will not sign the Convention as adopted.[21]

Several other nations declined to sign the 1982 Convention on the Law of the Sea for similar reasons.

VI. INTERNATIONAL SPACE TREATIES

There are five multilateral United Nations treaties, agreements or conventions governing activities in outer space. These are commonly known as the **1967 Outer Space Treaty**, the **1968 Rescue and Return of Astronauts Agreement**, the **1972 Liability Convention**, the **1976 Registration Convention**, and the **1979 Moon Treaty**. The 1967 Outer Space Treaty sets forth a comprehensive international regulatory framework for governing states' activities in space.[22] The 1968 Rescue Agreement concerns the rescue and return of space objects and space-borne personnel to their state of origination, and applies particularly to satellites that have returned to Earth but have landed in the territory of a state other than its originator.[23] The 1972 Liability Convention assigns absolute liability for damage caused by space objects to persons or property on the surface of the Earth or to aircraft in flight; a form of negligence liability is attributed to damages that occur in space to space objects and their contents.[24] The 1976 Registration Conventions specifies the registration information that must be furnished to the General Secretary of the United Nations by each state that launches (or causes to be launched) a space object.[25] The 1979 Moon Treaty is concerned primarily with introducing additional limitations with regard to using the Moon and other celestial objects for non-scientific purposes.[26] The United States is a signatory to all but the 1979 Moon Treaty.

The 1967 Outer Space Treaty is the principal document of international law concerning the regulation of states' activities in space, and it has been ratified by at least 96 states. The agreement allots international responsibility for all "national" activities as well as international liability for damages to the state, regardless of whether such activities were conducted by a governmental agency or a non-governmental entity; similarly, the aspects of ownership, jurisdiction and registration of space objects lie in the launching and/or originating state. This Treaty also provides, in Article I, that:

> The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind. Outer space, including the Moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies. There shall be freedom of scientific investigation....

Article II further provides that "Outer Space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means." This appears to obviate the doctrines of Discovery and Prescription as a means of acquiring territory on the Moon.

The 1979 Moon Treaty is the second-most relevant international treaty, although it should be noted that very few states have ratified this agreement and neither the United States nor the U.S.S.R. are among those few. The Moon Treaty is far more restrictive than the 1967 Outer Space Treaty with respect to use and exploration of the Moon and other celestial objects. The Treaty's intent can be clearly seen from its declaration in Article 4 that:

> 1. The exploration and use of the moon shall be the province of all mankind 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 the need to promote higher standards of living and conditions of economic and social progress and development in accordance with the Charter of the United Nations. (Emphasis added).

2. States Parties shall be guided by the principle of cooperation and mutual assistance in all their activities concerning the exploration 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.

Note that the first clause expands upon the statement in the 1967 Outer Space Treaty by introducing "the interests of present and future generations," and that the second clause seems to discourage unilateral lunar activities by states. The focus of this new language is the exploitation of the Moon's natural resources, as articulated in Article 11.

Article 11 declares that:

1. The moon and its natural resources are the common heritage of mankind, which finds its expression the provisions of this Agreement, in particular in paragraph 5 of this article. ...

3. Neither the surface nor the subsurface of the moon, nor any part thereof or *natural resources in place* (emphasis added), shall become property of any State, international intergovernmental or non-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 structures connected with its surface or the subsurface, shall not create a right of ownership over the surface or the 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. ...

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

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, (and others) ... 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 of the moon, shall be given special consideration. ...

Thus, the lunar resources of the Moon, as well as all other celestial objects, are to be sequestered under the terms of this treaty until the equivalent of a "Lunar Authority" is established to direct such matters, although natural resources that are no longer "in place" (presumably extracted) may be subject to claims of sovereignty. This regime reflects concerns similar to those regarding deep seabed mining and Antarctica that developing countries have expressed: irreplaceable resources that "should be" considered the "common heritage of mankind" should not be exploited to the benefit of only a few technologically-advanced states. This treaty is considered to be in force by the United Nations, as its terms called only for the ratification by any five states (at least seven have ratified it); however, a common precept of international law is that no treaty is binding upon states that have not signed and ratified it. The U.S. has not signed this treaty.

VII. JURISDICTION AND ENFORCEMENT

Under international treaty law, each state is held responsible for the activities of its nationals in outer space (whether in "space" or upon any "celestial body" other than Earth), and is obligated to authorize and supervise those activities conducted by its "non-governmental entities" to assure conformity to the applicable treaty terms.[27] Although sovereignty may not be claimed over any part of outer space, sovereignty is retained by the state of registry over objects launched and/or constructed in outer space.[28] This implicitly includes jurisdiction over any personnel contained within these "space objects," as well as any crimes committed therein.

A principal defect of the international space treaty law structure lies within the enforcement and reparations provisions for violations by signatories.[29] The dispute resolution provisions of the various space treaties do not provide any procedure other than diplomatic discussions between the affected states. For example, Article IX of the 1967 Outer Space Treaty provides that:

In the exploration and use of outer space, including the Moon and other celestial bodies, States Parties to the Treaty shall be guided by the principle of cooperation and mutual assistance and shall conduct all their activities in outer space, including the Moon and other celestial bodies, with due regard to the corresponding interests of all other States Parties to the Treaty.... If a State Party to the Treaty has reason to believe that an activity or experiment planned by it or its nationals in outer space, including the Moon and other celestial bodies, would cause potentially harmful interference with activities of other States Parties in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, it shall undertake appropriate international consultations before proceeding with any such activity or experiment. A State Party to the Treaty which has reason to believe that an activity or experiment planned by another State Party in outer space, including the Moon and other celestial bodies, may request consultation concerning the activity or experiment.

Furthermore, there is an inherent limitation to international regulatory law in that all claims for damages or for regulatory compliance must be an exercise of diplomacy between states and brought only against the sovereign authority of a state rather than the specific agency (if non-governmental) that caused the harm. There are no provisions in any of the space treaties allowing a state to pursue individuals directly responsible for any violation of treaty terms. If such an individual is within the interested state's jurisdiction, then the state may subject that individual to its own judicial process; thus the United States government can prosecute a U.S. citizen for infractions of U.S. space activities laws, and international laws to the extent recognized by U.S. law.

The United States regulates space-related activities of its non-governmental entities in various ways. Exports of spacecraft, launch vehicles, and other space-related articles of technology are regulated by the U.S. Department of State, under the authority of the U.S. Arms Export Control Act. Penalties for failing to obtain an export permit include confiscation of the entire shipment.[30] Actual launch activities are reviewed and approved by the Department of Transportation's Office of Commercial Space Transportation as per the 1984 Commercial Space Launch Act.[31] U.S. Courts have jurisdiction for criminal conduct aboard U.S.-registered spacecraft under certain "special maritime and territorial jurisdiction" provisions.[32] Thus, any U.S. private space venture will need to obtain U.S. governmental approval for its activities at an early stage, and its activities and conduct will be continually subject to judicial scrutiny, regardless of where such occurs. These regulations, however, only apply to persons or places over which the United States has jurisdiction.

In the event that a private firm undertook the commercial exploitation of lunar resources with the acquiescence of its government, other states that wished to oppose this venture would have three options: (1) undertake diplomatic consultation with the host state under the terms of the 1967 Outer Space Treaty (and the 1979 Moon Treaty where applicable) to induce the host state to reconsider its support of the venture; (2) bring the matter to the United Nations and its Security Council for resolution; and/or (3) seek to prosecute the private firm individually on a cause of action that has universal jurisdiction (thus allowing the opposing state to prosecute whomever it could arrest). There are two areas of recognized universal jurisdiction: piracy and slavery. Slavery will not be considered in this paper.

VIII.UNIVERSAL JURISDICTION: PIRACY

The earliest common law definition of piracy comes from a 1696 case named Rex v. Dawson, when Sir Charles Hedges, a judge on the Admiralty court, called piracy "a sea-term for robbery, piracy being a robbery committed within the jurisdiction of the Admiralty."[33] However, one of the acts of piracy described by the Lord Chief Justice was the attack and burning of a town in the Red Sea named "Meat." The defendants were tried only for attacks on a ship, not on the town, but it indicates that piracy was not limited to robbery at sea.[34]

A little more than a century later, in 1819, the United States passed a law providing for the punishment of piracy "as defined by the law of nations."[35] This statutory definition has seen little change through the present day.[36]

The U.S. Supreme Court was forced to determine "the law of nations" with regard to piracy in the 1820 case of U.S. v. Smith.[37] The jury had returned a special verdict finding that the defendants had mutinied and then robbed a ship by force, but left it to the court to decide if that constituted "piracy." The Circuit Court divided on this issue, leaving it to the Supreme Court to decide. To do so, the Supreme Court reviewed all the authorities of the time in an extensive footnote, and noted that all definitions included "forcible depredation on the sea." Among numerous variations, "robbery at sea" was defined as "depredation without authority from any prince or state, or transgression without authority from any prince or state, or transgression of authority, by despoiling beyond its warrant." The Court also noted with favor another authority's proposition that "unlawful depredation is the essence of piracy,"[38] and concluded that "piracy, according to the law of nations is incurred by depredations on or near the sea, without authority of any prince or state."[39]

In 1909 the English courts were called upon to decide if an attack occurring on a ship so far up the Amazon that it was in Bolivia could be construed as piracy, so that the ship owners would collect upon their insurance against loss by pirates.[40] While deciding international law was irrelevant towards interpreting insurance policies, the court used the following definition:

> Besides, though the absence of competent authority is the test of piracy, its essence consists in the pursuit of private, as contrasted with public, ends. Primarily the pirate is a man who satisfies his personal greed or his personal vengeance by robbery or murder in places beyond the jurisdiction of a state.[41]

Today, the definition of piracy in international law has been codified by treaty. Both the 1958 Geneva Convention on the High Seas and the 1982 U.N. Convention on the Law of the Sea are identical on this point.[42,43] Piracy is defined as:

> (a) Any illegal acts of violence or detention, or any act of depredation, committed for private ends by the crew of the passengers of a private ship or private aircraft, and directed:...
>
> (ii) against a ship, persons, or property in a place outside the jurisdiction of any state; ...
>
> (c) Any act of inciting or of intentionally facilitating an act described

in subparagraph (a) or (b).

In general, any state that desires to make the effort can capture and punish pirates and all other states are expected not to hinder that effort. These rules of international law were also codified in the Geneva Convention of 1958 and passed down unchanged at the Law of the Sea Conference.

Article 105 of the 1982 U.N. Convention of the Law of the Sea states:

> On the high seas, or in any other place outside the jurisdiction of any State, every State may seize a pirate ship or aircraft... and arrest the persons and seize the property on board. The courts of the State which carried out the seizure may decide upon the penalties to be imposed, and may also determine the action to be taken with regard to the ships, aircraft, or property, subject to the rights of third parties acting in good faith.

Exploitation of the Moon's resources by a private enterprise may constitute piracy under international law. Article 101 of the 1982 U.N. Convention on the Law of the Sea specifies three elements to the crime: (1) an illegal act of violence or depredation, that is (2) done by the crew of a private ship or aircraft and (3) committed against property in a place outside the jurisdiction of any state. The first critical issue then is whether exploitation of lunar resources constitutes "depredation" within the meaning of the law.

The most authoritative definition of depredation in the American courts comes from a 1927 case called Deal v. United States.[44] There, the Court cited the Century dictionary 's definition of depredation as "the act of plundering; a robbing; a pillaging." The Court then used *robbery* as the basis for analysis (along with robbery's connotation of force and violence in the act).

The strongest example of a U.S. court defining depredation as requiring force comes from the 1899 case of Ayres v. United States.[45] While interpreting a statute that proved for the "payment of claims arising from Indian depredations",[46] the Court of Claims stated:

> It is not every wrong that amounts to a depredation. The term "depredation" is defined to be "the act of plundering, a robbing, a pillaging," and the depredator to be "one who plunders or pillages, a spoiler, a waster" (Century Dictionary). The term depredation, as defined and used in common parlance, implies one or more of the following conditions: force, trespass, violence, a physical taking by force from the actual or constructive possession of the owner or person authorized to hold the possession, or a destruction of something valuable.

Evidence that depredation continues to be interpreted by the U.S. courts as requiring the use of force can be inferred from the 1977 case of United States v. Jenkins.[47] The case involved the conviction of a real-estate agent, who had rented out government-owned housing without obtaining the agreement of the U.S. government, for "willfully injur[ing] or commit[ting] any depredation against any property of the United States."[48] Since there was no physical damage to the property, the Court of Appeals decided that no injury occurred, and then focused on the question of whether an act of "depredation" had been committed. Citing Deal and other sources, the Court decided that no element of "force" was involved, ruled that there had been no depredation, and remanded for acquittal.

A different conclusion in Jenkins might have been reached if the court had focused on "plundering" instead of "robbery." Black's Law Dictionary defines the verb "plunder" as pillaging but goes on to note that "the term is also used to express the idea of taking property from a person or place, without just right, but not expressing the nature or quality of the wrong done." Thus, arguably, "simple theft" could constitute depredation, without requiring the use of force. In the United States however, since Jenkins was decided as it was, depredation still appears to require the element of "force."

Earth's Moon is, by treaty, a "place outside the jurisdiction of any state." The application of such concepts as "piracy," "depredation" and "plunder" in a lunar context, however, inherently require that the Moon be someone's *property*. If the Moon is *Res Nullius* , then its resources cannot constitute "property" as it is defined by law. Thus the principal issue becomes whether the Moon should be classified as *Res Communis* or *Res Nullius*.

IX. TREATY ANALYSIS

The classification of the Moon's legal status under international law may be inferred by analyzing the 1967 Outer Space Treaty and the 1979 Moon Treaty to see which type of administrative regime would be imposed.

The 1967 Outer Space Treaty reflects many of the concerns with regard to the High Seas. The territory in question may not be subject to any claims of sovereignty. States are responsible for all "national" activities, whether conducted by a governmental agency or a non-governmental entity; the "freedoms" available in each domain (e.g., navigation and scientific exploration) are comparable, and are not subject to the control of any central administrative organization. Sovereignty over vessels and structures erected to partake of these freedoms are retained by their respective states, as is international responsibility for the national activities therein conducted. States are only under an obligation to not interfere with other states' activities, and to not unduly damage the environment. Resource exploitation is not otherwise prohibited or controlled. In this manner, the 1967 Outer Space Treaty may be characterized as a *Res Nullius* -style approach towards regulating activities on the Moon.

The 1979 Moon Treaty adopts a very different approach. The exploration and use of the Moon would be explicitly for the benefit of each and every country, thus emphasizing the "community property" characterization. A

central administrative regime would be established to manage any lunar resource exploitation; no sovereignty claims over any portion of the Moon would be permitted. These provisions mirrors many of the elements present in the administrative regime that administers Antarctica under the 1959 Antarctica Treaty terms. Therefore, the 1979 Moon Treaty should be classified as a *Res Communis* -style approach towards regulating activities on the Moon.

The 1967 Outer Space Treaty was signed and ratified by 96 nations as of January 1, 1987.[49] The 1968 Rescue and Return of Astronauts Agreement was signed by 88 states as of the same date.[50] The 1972 Liability Convention has 81 signatory states, and the 1976 Registration Convention was signed by 43 nations, also as of January 1, 1987.[51] The 1979 Moon Treaty, however, has only been ratified by seven states, including France, Austria and the Netherlands but not the United States or the Soviet Union.[52] The preponderance of ratification for the 1967 Outer Space Treaty as compared to the 1979 Moon Treaty, and the relatively meager subscription by the international community to the Moon Treaty, overwhelmingly points towards an international acceptance of a *Res Nullius* status for Earth's Moon. However, the United Nations administration has adopted the stance that the 1979 Moon Treaty is in force, as the treaty required ratification by only five states to come into force.

X. CONCLUSIONS

Piracy is an *illegal* act of violence or *depredation* committed against *property* in a place outside the jurisdiction of any state. The Moon is clearly outside the jurisdiction of any state; in order for lunar resources to constitute "property" however, the Moon will need to be classified as *Res Communis* . If a given state were to consider the Moon "community property," it would similarly need to define "depredation" in a manner not requiring the use of force in the act if it were to seek to prosecute a lunar mining venture under charges of piracy. A third element of this charge is that the conduct in question was "illegal," and this addresses a key aspect of international relations.

Under space treaty law, all space activities must be conducted under the authority of the launching and/or originating state(s). The United States in particular has enacted substantial legislation to regulate space activities of non-governmental entities - without governmental approval, no U.S.-based venture will literally get off the ground. Thus, no authorized space activity is "illegal" in the sense that it was conducted without the approval of a sovereign. However, history has shown that such approval may at times be disregarded by prosecuting states.

In the late-1500's/early 1600's, Spain and Portugal maintained extensive colonies in various parts of the world; together these countries were opposed by Great Britain and the newly independent state of the Netherlands. British and Dutch privateers were granted Letters of Marque authorizing them to attack, raid (pillage), and destroy any Spanish or Portuguese colony, base or other possession that were discovered. Whenever these privateers were captured by Spanish/Portuguese authorities, these Letters of Marque were ignored and the privateers tried (and executed) on charges of piracy.

A privately-funded and operated lunar mining venture, even if approved by its "home" state, may find its assets and personnel seized by hostile states on various grounds such as piracy. That venture would then need to resort to its home government for recourse under international law, which may not wish to involve itself in these issues.

One means of avoiding this is to obtain wide international approval for such a venture. A multinational corporation with sovereign governments as shareholders (preferably non-voting, but still receiving a share of any profits) would be one method of accomplishing this.

It should be noted that under both the 1967 Outer Space Treaty and the 1979 Moon Treaty, sovereignty over any space objects or structures erected is retained by the launching or otherwise-responsible state. Thus generally any lunar land "improvements" (such as a manned lunar base) should be secure under international law.

FOOTNOTES

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[2]L. Oppenheim, International Law, Vol I., p. 546 (8th Ed.).

[3]Ibid., p. 566, 567.

[4]Ibid., p. 547, 548.

[5]Ibid., p. 576, 577.

[6]*Island of Palmas* Arbitration, Annual Digest, 1927-1928, Case No. 70.

[7]Oppenheim, at 563, 564.

[8]Ibid., p. 558.

[9]Ibid., p. 557, 558.

[10]Ibid., p. 558, 559.

[11]Ibid., p. 559.

[12]The Antarctic Treaty, Dec. 1, 1959, 12 U.S.T. 794, 402 U.N.T.S. 71, T.I.A.S. No.5778, Article IV.

[13]The Antarctic Treaty, Article I, §1.

[14]Vicuña, Orrego, Antarctic Resources Policy 2-3 (1983).

[15]Auburn,F.M.,Antarctic Law and Politics 245 (1982).

[16]Financial Times, "A Regime for Antarctica", October 16, 1989.

[17]The Reuter Library Report, "Antarctica Nations Negotiate Environmental Protection Accord", November 19, 1990.

[18]"Hands off Antarctica," The Economist, May 4, 1991 at p. 47.

[19]Geneva Convention on the High Seas, Apr. 29, 1958, 13 U.S.T. 2312 (1962), T.I.A.S. No.5200, 450 U.N.T.S. 82, Articles 2, 24 through 29.

[20]United Nations Convention on the Law of the Sea, Dec. 10, 1982, Art. 87.

[21]"Statement of the United States' Actions Concerning the Conference on the Laws of the Sea", 2 Public Papers of the Presidents 911 (July 9, 1982).

[22]Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies. 18 U.S.T. 2410, 610 U.NT.S. 205, Y.U.N. 1966, p. 41.

[23]Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched Into Outer Space. 19 U.S.T. 7570, Y.U.N. 1967, p. 34.

[24]Convention on International Liability for Damage Caused by Space Objects. Y.U.N. 1971, p. 52.

[25]Convention on Registration of Objects Launched Into Outer Space. 28 U.S.T. 695, Y.U.N. 1974, p. 63.

[26]Agreement Governing the Activities of States on the Moon and Other Celestial Bodies. Y.U.N. 1979, p. 110.

[27]Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, Art. VI.

[28]Ibid., Art. VIII.

[29]Forkosch, Morris D., Outer Space and Legal Liability p. 13 (1982).

[30]Arms Export Control Act, Sec. 38, 22 U.S.C. 2778 and 2794(7). *See* 22 C.F.R. §121.1 ("The United States Munitions List") for specific regulations by U.S.Dep't. of State.

[31]49 App. U.S.C. 2601-2623.

[32]18 U.S.C.A. 7.

[33]Rex v. Dawson, 8 William III 392, 13 St. Tr. 451 (1696).

[34]Id. at 454.

[35]Act of the 3d of March 1819, ch. 76 §5.

[36]18 U.S.C. 1652.

[37]U.S. v. Smith, 18 U.S. 153 (5 Wheat.) (1820).

[38]Id., at 163 n.h., citing Dr. Brown (2 Civ. & Adm. Law 461, 462).

[39]Id., at 163 n.h citing Rutherforth (Inst. b. c. 9. s. 9. p. 481). See also, Davison v. Seal-Skins, 7 F. Cas. 192 (C.C.D. Conn. 1835)(No. 3661, 2 Paine 324).

[40]Bolivia v. Indemnity Mutual Marine Assurance Co. Ltd., 1 K.B. 785 (1909).

[41]Id., at 791, quoting Hall, International Law, p. 259 (5th Ed.)

[42]Geneva Convention on the High Seas, April 29, 1958, Art. 15.

[43]U.N. Convention on the Law of the Sea, April 30, 1982, Art. 101.

[44]Deal v. United States, 274 U.S. 277, 283 (1927).

[45]Ayres v. United States, 35 Ct. Cl. 26 (1899).

[46]Act of March 3, 1891, Supp. R.S. Vol.1, p. 913 (2d ed.).

[47]United States v. Jenkins, 554 F.2d 783 (6th Cir. 1977).

[48]18 U.S.C. §1361.

[49]Sweeney, Oliver, Leech, The International Legal System, p. 317, (Third Ed.).

[50]Ibid., p. 318.

[51]Ibid., p. 318.

[52]Ibid., p. 321.