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# THE LEGAL STATUS OF PROPERTY ON THE MOON AND OTHER CELESTIAL BODIES

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## ABSTRACT

Power, in the objective sense, is the value most prized among states and the basis of attaining and protecting all other values. Other values, such as resources, energy, wealth, prestige and so on are directly dependent upon power, and upon states seen to be exercising it to protect or advance their interests. Clarification of the legal status of the property rights claimed among states in outer space discloses the policy link between private and public law. The concern of states extends beyond their inherent stakes in property. Such claims impute influence, power and prestige among states, and ensure those claims by the resources, including energy that is a part of those resources. Bu space presents a separate, overriding challenge: states that make these claims and seek to enforce them must also be the master of the relevant technologies for this purpose. Aside from property as a claim to resources, as a claim to energy, as a challenge to technologies, and as a claim to power and influence, property in the territorial sense becomes a claim for sovereignty, exclusive controls and strategic advantage. Such a claim extends to the supplemental claim to force others out of arenas exclusively held. Most of these claims cannot be explored in depth in this inquiry, and many are clearly speculative in nature. Such widened claims using the vocabulary of the jurists speak of the critical value of power, the subterranean claims of states to exclusive control, jurisdiction and authority over property and territory.

Most importantly, the implications associated in the legal order with the rights to property reach to the perceptions of states concerning their security. Because security is associated with the bases of power, to be invoked or protected, these claims involving and linking property, territory and security march together. Aside from claims of this nature are those associated with the rapidly advancing civil and military technologies: these instruments of power and policy are promoted by property because technologies generally address property rights, tangible or intangible.

## DISCUSSION

Exclusive claims to property coupled with a relentless advance in the power-based technologies of exploitation and use necessarily

lead to power, and to the claims of states to the exclusive authority they identify with "sovereignty." Property rights in municipal law protecting the interests of the citizen or resident also establish their claims to the governance of the social order: rights to property - both for simple occupancy and for production - and the citizens' rights to govern themselves go hand in hand. And the legal theory of property rights in outer space, encompassing primarily the claims of states, is a theory that is correct only if it embodies the sovereign claims of states. A "revolutionary change" in this perspective would require a new, and revolutionary alignment of states, presumably, and exclusively, under the jurisdiction and control of a global public order. Hence the 1967 Outer Space Principles Treaty anticipates at the first stage of the space age a collective, orderly change swept on under the operational principles of cooperation.

A major problem that we face in participating in the law making processes and in seeking our legal precedents and experience for effective and economical future regulation, is to give law its operational basis. The claims for prestige and power aside, the jurist concerned with global order looks to a standard of reasonableness as a principle balancing opposing claims and counterclaims. At present, we have no reliable set of principles and practices that balances, on an interdisciplinary basis, the status quo among states as to their power against the dynamic features that come in terms of an advancing competition for resources and power and the reach for the technologies that give the claims their support. We cannot predict the direction or velocity of change even if we are given guidance by closer ties to reliable trends.

The legal status of property rights in space is not spelled out in detail or in comprehensive conceptual framework, and much must be invoked from general principles of law applicable to property in terms of terrestrial claims. States necessarily engender an array of responsibilities, and these increase as they engage in increasing numbers of activities. Launching satellites leads to a responsibility and liability to those that might be harmed. Maneuvering satellites create responsibilites for their owners or possessors. They must meet the pervasive standards of the utmost due care as the activities move toward more hazardous levels. Satellites are dangerous objects and liability for their harm is a general principle of law. The activities of satellites, similarly establish an obligation or responsibility for harm consistent again with the standards of due care, so that negligence, accidents, and even unforeseen harmful incidents are subjected to general principles of law. All of these activities are regulated primarily through the shared patterns of expectation of behavior, tolerances in behavior and distinctions of what is permissible, and through the claims and tolerances that enter into this process of claim. The outcome is customary international law a matter that is established only with great difficulty and care.

The Major Treaties of Outer Space.[1] What are the sources of the law of property rights, aside from the customary international law or the principles often adopted as a part of the generation of that law?

The primary treaties relating to outer space are multilateral treaties and are intended to become the law of outer space for all states.[2] The expectation arises that all space active states will become parties to the treaties, and participants in giving them strength and effectiveness. The first of the major treaties, that is those that are constitutive, or constitutional, in nature is the treaty on principles governing activities in outer space, dated January 27, 1967, closely parallelling the resolutions adopted in the General Assembly in 1967. To reduce repetition, reference in this paper to space or outer space is intended to be a reference to the moon and other celestial bodies.

The first of the principles in this treaty raises the question of property. Article I declares declares in pertinent part 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." This principle is vague and ambiguous and it is meaningless until we have the state practice to give us the precision and the leval of interactive tolerances in state behavior that we need. For example, claims among states regarding sovereignty become confusing in light of the first two Articles of this Treaty. There is no language that insists with absolute clarity that states are forbidden sovereign rights that do not fall within the notion of "national appropriation." Principles of law, in general, give us a symbolic and economical grasp of general, shared expectations of law, but they need the exercise of authority and control to reach out and apply as law. Put in question: Are the activities mentioned to be regulated by states? Are they to be the subject of reports among the states? Are there activities not covered by the language "exploration and use?"

Follow on principles appear in Article II banning claims of states to "national appropriation by claim of sovereignty, by means of use or occupation, or by any other means." Article III supports the notion that the activities, necessarily including those relating to property, fall in a regime of cooperation, primarily aimed at achieving the objectives of the UN Charter, including in particular "maintaining international peace and security." Article III of this treaty preserves the right of self defense, transferred to customary international law [but not the whole of customary international law]. Article 51 is necessarily included in Article III, so that actions in self defense in space, or for that matter terrestrially are not prohibited assuming that in resorting to force the standards under international law are met.

Article VI introduces the adoption of regulatory standards and principles in terms of function, so that various functions we associate with our claims to property including the possession, ownership and use may be regulated. The fact that such regulations of functions does occur in the various treaties on outer space is evidence of the intended, growing expectations of the reach of property rights. Article VI imposes "international responsibility for national activities in outer space," and the subsequent articles indicate how the responsible participants are to be identified. Article IX referring to the exploration and use of outer space, restates the principle of

cooperation and mutual assistance, and the duty to protect the environment, i.e., "to avoid their harmful contamination and also adverse changes in the environment of the earth, resulting from the introduction of extraterrestrial matter.." This provision plants the seeds for developing the appropriate space law for the environment and for maintaining it free of pollution, contamination, and "harmful materials" of all kinds. Environmental law, in turn, is closely associated with how the legal status of property is to be regulated.

It is evident that with the expanding perspectives about the law relating to the environment that this provision will require amendment and refinement in future efforts to regulate the activities that may cause environmental harm. The continuing appearance of more hazardous activities and hazardous substances can be expected, and with this appearance the growing demand among states in outer space to ensure full protection against harm caused by those engaged in using their "property" or space objects in space. Domestic regulation by numerous states furnish the principles to be invoked.

The Agreement on the Rescue of Astronauts does not address property rights except for strengthening the linkages of responsibility to the launching states. Future amendments to this Agreement might look to the problem of liability, linking the Agreement with that problem and its resolution.

Articles A-1, A-2 and A-21 are among the provisions of the Convention on International Liability for Damage Caused by Space Objects, March 29, 1972, that are pertinent to the legal status of property rights. Between them they cover with greater clarification what constitutes a space object, impose important standards of liability upon states launching space objects, and in A.21 provide further content to the law relating to the matter of dangerous activities and space objects. This Convention is a set of procedures intended to ease states through alternative dispute measures that might enable them to improve their cooperative arrangements and fulfill their responsibilities where damage is caused.

The Convention clearly implies that those engaged in space are introducing objects that involve a property interest. They may be acting in behalf of the launching state, or states, or in behalf of individual or joint enterprise involving satellites. The general principles of law that might be adopted for further precision in future treaties or international agreements can be taken from general state practice as the current legal basis for determining and allocating that responsibility and the liability for damage. The implication here is that responsibility for harm and the imposition of liability that flows from the possession or use of property is identified, and that standards for assessing harm are measured by the degree of danger, risk or threat to others, and by the foreseeability of harm arising from the property and its use. This Convention does not create a mandatory, specific set of procedures, but makes alternatives and options available, and includes the option of negotiation.

The Convention on Registation of Objects Launched into Outer

Space, January 14, 1975, provides a regime for identifying objects launched into space, and for setting forth the technical data and details relating to the objects launched. Registrtion presupposes that states have a property interest in their space objects, will maintain them under effective control, and where responsible for harm or damage, will promptly pay compensation or afford other corrective relief as might be imposed through community procedures. It establishes how that interest is to be identified in terms of the technical features of the space object and its launching. In doing these things, it gives us a more precise conception of the nature of space property, i.e., as property that is regulated closely to prevent harm, interference of states in their activities, and so on.

The Agreement Governing the Activities of States on the Moon and other Celestial Bodies, December 5, 1979, has not been widely ratified: major states like the United States and Russia have not become party. The Moon Treaty has a number of provisions addressing property, primarily in the context of the trade, commerce and production associated with property. The Treaty was an attempt to fill some of the gaps relating to activities involving the moon and other celestial bodies, including some involving the property claims and uses of space objects, which are a form of property expressed in terms of property claims. As with the other treaties, the Moon Treaty preserves the application of the Charter of the UN, and its supremacy over other treaties that might be inconsistent with it, and it also includes the more ambiguous Declaration on Principles of International Law Concerning Friendly Relations and Cooperation, adopted by the General Assembly on 24 October 1970. This declaration is ambiguous because it purports to be international law formulated as a grouping of general principles, but because the principles are vague and lack the substance essential for enforcement, the law making effort that would make such principles serve as law await future state practice.

The Moon Treaty has additional ambiguities that call for clarification before it will become a desirable instrument of control or regulation. But some of its detailed provisions indicate the direction states were moving in establishing a regulatory regime and its controls about what the owner or possessor is to be permitted to do with his property on the moon and other celestial bodies. They call for example for greater protections of the environment, clarification of the activities to be regulated under international law with regard to launching and personnel, the right of states to establish manned and unmanned stations on the moon, with the implication that states will thereby have the protections needed for their property in these stations, the spelling out of cooperative measures with regard to common core problems such as those relating to the health and well being of personnel on the moon. This array of provisions and others to be mentioned below suggest that through the details states are gradually telling each other what is property, what they can or cannot do with it, and who makes the decisions about these matters.

The detailed provisions of Article 11 introducing the ambiguous notion of a "common heritage of mankind," is given some precision in

the Moon Treaty because this principle is specifically limited to its application to the Moon Treaty. The common heritage notion is described as the notion that "finds its expression in the provisions of this Agreement [i.e., the Moon Treaty] and in particular in paragraph 5 of this article." The directive in Article 11 that simply declares that states are to conduct their property-related activities under "an international regime."

A literal reading of the provisions that set up the international regime indicate clearly that the drafters of the provisions expected to establish collective enterprise, ousting the market control and market forces. The stumbling block arose because this regime with trends bent toward collective exploitation of resources from space will necessarily promote cartels among nations and their productive or industrial entities, and these cartels will control prices, the amount of goods produced, and even the use of the goods. They would reduce, or even eliminate, competition as a major market factor. Article 11 (5) reads:

> 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 Article 18 of this Agreement.

The anticipated international regime is a regime of cooperation, collective in outlook. This anticipated regime would overturn past practice, turning back the global movement toward a market oriented regime, and away from what is expected with productive property. Paragraph 7 indicates what has been done:

> 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) and 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.

Property rights are also covered in the other provisions of the Moon Treaty. These include the retention of jurisdiction and control by states over property and personnel, the development of the notions of international responsibility, as set forth in Article 14, the provisions for cooperation and compatibility in the conduct of enterprisory activities, and so on. We are now witnessing the gradual strengthening of regulatory powers vested under the

outer space treaties, with the relevant participants in the regulatory network extending to space active states, the United Nations and its Secretary-General.

FUTURE WORK. Future work on the treaties relating to outer space can be discerned already. Aside from the treaties discussed here there are numerous treaties applicable to activities terrestrially that can be invoked to reach the wider range of state activities and applied with regard to those activities. These need to be brought together and made accessible for easy retrieval in order to avoid the chaotic conditions that might occur if bilateral or non-constitutive treaties are negotiated without careful alignment with the public law of space. Treaties already in force that can be transferred to regulate activities in space include the UN Charter, along with the countless agreements running the gamut of state activity. Future efforts and study are needed in this area. International organizations and institutions can be scrutinized to determine the possibility of extending their control or jurisdiction or regulatory powers into space even though they were designed with terrestrial regulation in view.

For the immediate period ahead we can anticipate that the major space powers and those most comprehensively in command of the technologies pertinent to outer space are the states that will take the lead in adopting additional treaties, or in providing amendments and refinements to the treaties we have. Nonetheless, we can expect that such efforts like surveys are likely to be launched by the United Nations and its committees concerned with outer space to determine what matters or gaps in the existing law is troubling to states. This would lead to a "small" state "collective" effort, similar to those found some decades ago when the Charter of Economic Duties was put forward. Such surveys will guide the treaties and agreements that may be needed, and even to the urgency of negotiating those instruments. General principles of law to be applied by future treaties or international instruments addressingf outer space can be taken from the municipal legal systems or from other treaties and international agreements. A most important, on-going task might be to consider the possibilites or potential situations and potential crises that might, in the future, lead states to disputes, and to invoking the use of force. If these can be identified, and if measures can be taken to reduce their eruption, a major step will have been taken to avoid the use of military force in space.

RECOMMENDATIONS. Among the specific recommendations that might be made with regard to this subject these should be included:

(a) clarification and the quieting of controversies over ambiguous or contentitious principles such as the "common heritage of mankind," (b) the preparation of an updated research report to bring up to date the Report of Leon Lipson and Nicholas Katzenbach, entitled "Report to the National Aeronautics and Space Administration on the Law of Outer Space" (published by the American Bar Foundation, July 1961); (c) the consideration of amendments to the outer space treaties such as the

Moon Treaty to eliminate its interference with the right of states and of the rights of their citizens freely to enjoy and pursue their activities in outer space in a congenial setting for the market economy; (d) the determination of normative principles and standards and an assessment of whether they can provide useful criteria and guidelines for the future activities in space; (e) the monitoring of developments of agreements and international instruments affecting space to determine whether such instruments need amending or refinements, or even replacement; (f) the identification of areas where rules of the road can be adopted to prevent harm or damage from space activities or inter-state interference; (g) the design of working drafts and supplementary opinions to ease the adoption of alternative dispute measures to resolve differences in a spirit of cooperation among states or their enterprises conducted in space; (h) the increased use of research, development and testing activities that are shared among states as to the work performed and the benefits to be enjoyed in joint or reciprocating tnerprise in space.

CONCLUDING OBSERVATIONS. By way of brief overview, the legal rights to property established among states in the global community are major factors upon which states rely in controlling or extending their claims to control, exercise sovereignty, and influence in general. States defend themselves, their citizens and the property under their jurisdiction and control. The initiation of the use of force is in large measure a matter for each state to determine for itself so that future actions taken to restrict, provide guidelines for determining the initiation of war, or to guide the war-making decisions will be of increasing importance for regimes of deterrence or prevention as we gain further technological control over the weapons of the future.

How does the element of property and property rights apply in this area? Setting aside the competition over property and the ambiguities over proprietary rights treated as property, it is evident that when the competition is over strategic locations of sites or objects in space, or over large deposits of resources and energy easily accessible, or over the more habitable locations in space that competition might lead to disputes as they have in the past, and to warfare. Competition for locations in space by the same token to enhance the strategic position of military forces terrestrially may lead to military conflicts and disputes with regard to terrestrial conflicts, aided or supported by activities in space.

Because states may defend themselves by recourse to military force wherever they are opposing each other, a major recommendation of this paper is to find the means to reduce the opportunities for exclusive claims over property or territorial property that might be the subject of competition. This, apparently, is what the treaties on outer space attempt, even though they are have not be drafted deliberately for this purpose.

The conceptual framework for looking at the rights of states in outer space is currently framed under traditional perspectives, i.e., under the perspectives of states that consider the exclusive claims and rights to activities and property are paramount. We can choose to regulate under this framework with little change to the framework. Or we can examine the more complex task of looking into a public order that we might draft in detail to cover the activities of space in the future. This second alternative calls for the promotion of new perspectives among states about cooperation, sharing rights and benefits, and so on. But the choice between the two, or a mixture of the two, will determine the future law and legal rights of property as part of that law.

It is apparent that the claims of states to property extend to claims that reach natural objects and the resources they contain, including asteroids, planets, and so on, as well as to manmade objects. The claims of states are largely dependent upon their control or mastery of the applicable or relevant technologies and the deference afforded to them and their claims for controls over how outer space is to be regulated in view especially of the major changes in the applicable technologies. Outer space activities are activities that entail great costs. These costs are incurred for achieving controls and mastery over the relevant technologies, but lead to the expectations among the space active states that they will receive major benefits or rewards for their efforts. Not the least of these is control over the regime and regulation of activities in space.

International law, regulating the activities and relations among states, is in many respects a "soft" law, or law that is subject to differences ranging from nuances and subtleties to major and opposing claims among those who interpret and apply it. Only through a continued practice among states will these be problems of uncertainty with regard to the relevant law and its applications be overcome, and a hard law established for the maintenance of international peace and security and the promotion of human rights shaped into force. The primary need, it seems, aside from drawing up the norms and norm guided practices is the assurance that states live up in good faith to their commitments and pursue them to achieve common social goals.[4]

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1.Numerous treaties, aside from those cited in this paper, have functional regulation, or legislative impacts, affecting or regulating property rights involved in outer space. See for such documents, Committee Print, 95th Cong. 2d Sess., SPACE LAW, December 1978, U.S. Govt Print. Off., Washington. The page numbers given below are taken from this Print. Among the functional elements that might be mentioned are those concerning the regulation against harmful interference in the telecommunications conventions [p.140; 81; 83; 87; the responsibilities for maintaining rational use with a superficial resemblance to Article 11 of the Moon Treaty [see p.86]; the property allocations in terms of radio frequencies, the advancing control through the sequence of regulations, the problems involving reserved orbits; and the duty to provide for a rational use of space for radio frequencies and communications; other treaties provide similar impacts. Special attention should be given the emphasis in U.S. legislation upon promoting science and technology in the Comsat Legislation, p.541 et seq., and upon the environment, pollution, contamination, health care, peaceful uses of space, and the national security.

2. The treaties referred to in this paper: The UN Charter, entered into force on October 24, 1945, UNTS Vol. 557 p. 143; Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space including the Moon and other Celestial Bodies, entered into force on October 10, 1967, UNTS Vol. 610, p.205; Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects launched into Outer Space, entered into force on December 3, 1968, USNTS Vol. 672, p.119; Convention on International Liability for Damage caused by Space Objects, Entered into force on September 1, 1972, UNGA Res. 2777 (XXVI) Annex, of November 29, 1971; Convention on Registration of Objects launched into Outer Space, entered into force on September 15, 1976, UNGA Res. 3235 (XIXX) Annex, of November 12, 1974; Agreement Governing the Activities of States on the Moon and other Celestial Bodies, entered into force on July 12, 1984, UNGA Res. 34/68 Annex, of December 5, 1979. The paper does not consider the numerous bilateral agreements, and only refers, by implication to the major treaties creating such institutions as INMARSAT, and to the International Telecommunications Convention (entered into force for the United States April 7, 1976. [IAS 8572). This Convention contains provisions for allocating frequencies and radio bands among states, and these provisions involve a property interest. The Convention also regulates such frequencies as property. They are not to be the source of harmful interference — a matter that is of the nature of regulated property.

3. One major future event might bring states together, notwithstanding their differences in wealth and influence. If a major space object — whether manmade, or an object such as a comet, asteroid, or other natural object — were to threaten the earth, the costs and technologies for diverting the space object, or disintegrating it, would be very great. We could anticipate a very

large public support worldwide for immediate action regardless of cost to overcome this threat, for shared and cooperative efforts on a great scale with regard to the technologies and funds involved, and so on. This is the major problem of space debris presently being considered by the members of the IAF.

4. The texts concerning outer space and its conceptual problems are numerous. Among them, with substantial bibliographies, are those of Christol, THE MODERN INTERNATIONAL LAW OF OUTER SPACE, Pergamon: New York, 1982; Lipson and Katzenbach, THE LAW OF OUTER SPACE [Bibliography, up to 1961, needs revision to the present date, to complete the "data bank" at general disposal], American Bar Foundation: Chicago, 1961; Benko, de Graaff and Reijnen, SPACE LAW IN THE UNITED NATIONS, Nijhoff: Dordrecht, 1985; Lay and Taubenfeld, THE LAW RELATING TO ACTIVITIES OF MAN IN SPACE, American Bar Foundation: Chicago, 1970 [contains major bibliography, but not up to date]; McDoungal and Associates, STUDIES IN WORLD PLUBLIC ORDER, Yale Univ. Press: New Haven, Conn. 1960 [contains essay of McDougal and Lipson on outer space]; McDougal et al, THE PUBLIC ORDER OF OUTER SPACE, Yale Univ Press: New Haven 1980.