This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker

IISL/ECSL SPACE LAW SYMPOSIUM 2004
On the occasion of the 43rd Session of the
Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space

New Developments and the Legal Framework Covering the Exploitation of the Resources of the Moon
Office for Outer Space Affairs, Vienna, Austria
Monday, 29 March 2004

Article II of the Outer Space Treaty, the Status of the Moon and Resulting Issues

Leslie I. Tennen, Esq.
Law Offices of Sterns and Tennen
Phoenix, Arizona U.S.A.

Introduction

The non-appropriation principle is under assault. A cornerstone of international space law, the doctrine embodied in Article II of the Outer Space Treaty[1] and Article 11 of the Moon Agreement[2] is seen by some as an unwarranted intrusion on the rights of the private sector to conduct business in space. National prestige, technological advancement, and the quest for scientific discovery all have driven space programs at different times, while the current focus on commercial development has considerations of private gain taking center stage.

Launch services and telecommunications satellites are the most developed segments of space industry, but they continue to suffer from occasional technical and business failures. The opportunities for private enterprise in space abound, although the formula for success so far has been elusive. No doubt a wide variety of novel and useful space applications will be found. Unfortunately, a disturbing trend has emerged, whereby some view the shortest path to profit is by violating space law, especially Article II of the Outer Space Treaty.[3]

1. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, *opened for signature* January 27, 1967, 18 U.S.T. 2410, T.I.A.S. No. 6347, 610 U.N.T.S. 205, *text reproduced in* UNITED NATIONS TREATIES AND PRINCIPLES ON OUTER SPACE 3 (2002) [hereinafter referred to as the "Outer Space Treaty"].

2. Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, *entered into force* July 11, 1984, 1363 U.N.T.S. 3, *text reproduced in* UNITED NATIONS TREATIES AND PRINCIPLES ON OUTER SPACE 27 (2002), *and* 18 I.L.M. 1434 (1979) [hereinafter referred to as the "Moon Agreement"].

3. The Outer Space Treaty has received widespread acceptance, while the Moon Agreement has been ratified by only ten states. Thus, while the discussion in the text will refer primarily to Article II of the Outer Space Treaty, the arguments also apply to the Moon Agreement in the appropriate context.

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker

Claims to Celestial Property

The assault on Article II comes from many sources, and takes many different forms. Web sites which proclaim to be the self-anointed "registry" for claims to extraterrestrial acreage are appearing more and more frequently, each with its own fanciful rules, regulations and requirements. Deeds purporting to represent such extraterrestrial real estate readily are available through the web and elsewhere.[4] In addition to claims of ownership, proposals have been made to capture, relocate, and mine celestial bodies to oblivion.[5]

There is a common theme to these endeavors, that is, the implicit renunciation of the concept of non-appropriation of outer space, including the Moon and other celestial bodies, in favor of unfettered private ownership of extraterrestrial property. The proponents of these proposals attempt to distinguish the application of the non-appropriation doctrine to private entities in general, or to their favored projects in particular.[6] Alternatively, it has been urged that the non-appropriation principle presents an insurmountable obstacle to profit-making activities in space, and therefore should be abandoned by the community of nations.[7]

The non-appropriation principle is not alone as a target for would-be entrepreneurs. The space environment itself is being threatened by missions which have as their primary object the creation or distribution of debris. For example, human cremains have been launched into orbit on more than one occasion, and these missions served no purpose other than private gain at the expense of the natural environment of space.[8] Another private venture claims to be on target to launch, before the end of this year, a payload of business cards and other detritus to disburse over the lunar surface. It is claimed that for a fee, this company will allow anyone to send their own scrap of paper to be deposited on the Moon.[9] These missions appear to be in direct contravention of the provisions of Article IX of the Outer Space Treaty, and Article 7.1 of the Moon Agreement.

A mission to deliver debris to the Moon for profit may have important implications for the non-appropriation principle. Specifically, it has been reported that one vendor of "lunar deeds" intends to establish a physical presence on the Moon, perhaps by littering the surface with cards or other papers carried by such a "lunar debris express." It is asserted that

4. *See* Britt, *Lunar Land Grab: Celestial Real Estate Sales Soar* http://www.space.com/scienceastronomy/mystery_monday_040202.html (February 2, 2004)

5. *Benson, Space Resources: First Come First Served,* in PROCEEDINGS OF THE 41ST COLLOQUIUM ON THE LAW OF OUTER SPACE 46 (1999).

6. *See, e.g.,* White, *Real Property Rights in Outer Space*, in PROCEEDINGS OF THE 40TH COLLOQUIUM ON THE LAW OF OUTER SPACE 370, 379 (1998); Wasser, *The Law That Could Make Privately Funded Space Settlement Profitable*, 5 SPACE GOVERNANCE 55 (1998).

7. *See* Quiat, *Financing Infrastructure for Space Stations and Related Business Development*, 5 SPACE GOVERNANCE 176 (1998); O'Donnell, Robinson & Robinson, *This Treaty Needs a Lawsuit*, in PROCEEDINGS OF THE 40TH COLLOQUIUM ON THE LAW OF OUTER SPACE 185 (1998).

8. *See* Hoffman, *Space Cemeteries - A Challenge for the Legal Regime of Outer Space*, in PROCEEDINGS OF THE 43RD COLLOQUIUM ON THE LAW OF OUTER SPACE 380 (2001). An exception concerned the transport of a vial of cremains of Eugene Shoemaker to the Moon. Although not done for commercial purposes, such mission nevertheless was ill advised. *See* Sterns, *The Scientific/Legal Implications of Planetary Protection and Exobiology*, PROCEEDINGS OF THE 42ND COLLOQUIUM ON THE LAW OF OUTER SPACE 483 (2000).

9. Britt, *supra* note 3.

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker

this physical presence will add to and reinforce the rationale by which this vendor claims ownership of the Moon. While this may seem preposterous, this particular vendor alone claims to have sold deeds to millions of acres on the Moon,[10] and there is the distinct possibility that hundreds of thousands of people around the world have been deceived.

Non-Appropriation and International Security

The expression of the non-appropriation principle, as set forth in Article II, does not stand in isolation, but rather must be considered in conjunction with other articles of the Outer Space Treaty. In this regard, the following articles may be particularly relevant:

Article 1, paragraph 1, which requires that activities in outer space be conducted for the benefit and in the interests of all mankind;

Article 1, paragraph 2, which provides that states shall have free access to all areas of celestial bodies;

Article IV, which specifies that all activities on the Moon and other celestial bodies shall be conducted exclusively for peaceful purposes;

Article VI, which obligates states to authorize and provide continuing supervision of the activities of their non-governmental entities in space; and

Article VII, which establishes international liability for damages.

The non-appropriation principle was among the earliest tenets of space law to be accepted by the community of nations. The doctrine was articulated in U.N.G.A. Resolution 1721 in 1961,[11] a mere four years after the launch of the first Sputnik. The prohibition on the appropriation of space was re-affirmed in 1963 by U.N.G.A. Resolution 1962.[12] The non-appropriation principle expressed in these two resolutions was incorporated in the precursor drafts of the Outer Space Treaty submitted to the U.N. Committee on the Peaceful Uses of Outer Space by both the Soviet Union[13] and the United States.[14]

Prior to the entry into force of the Outer Space Treaty, the non-appropriation principle was not positive international law. Nevertheless, states uniformly adhered to the principle in their activities in space. Thus, contrary to historical precedent on Earth, states did not lay claim to the vast reaches of space based on their explorations. Moreover, states also did not rush to assert claims, for whatever they might be worth, in anticipation of the entry into force of the Outer Space Treaty in 1967. The practice of states in space has been a substantial departure from the experiences on Earth during the age of exploration and colonization through the 20th century expeditions to Antarctica.

The adoption of the non-appropriation principle by the global community served several historical purposes, including, notably, the

10. *Id.*

11. International Co-operation in the Peaceful Uses of Outer Space, G.A. Res. 1721(XVI)A, U.N. Doc. A/4987, at ¶ 1(b) (December 20, 1961).

12. Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, G.A. Res. 1962 (December 13, 1963), *text reproduced in* UNITED NATIONS TREATIES AND PRINCIPLES ON OUTER SPACE 39 (2002).

13. Draft Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, the Moon and Other Celestial Bodies, art. II, *text reprinted in* Report, Committee on the Peaceful Uses of Outer Space, at Annex I, U.N. Doc. A/AC.105/35 (September 16, 1966).

14. Draft Treaty Governing the Exploration of the Moon and Other Celestial Bodies, art. I, at 4, U.N. Doc. A/AC.105/32 (June 17, 1966).

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker

maintenance and preservation of outer space for peaceful purposes.[15] The pacific character of space activities has promoted an atmosphere contributing to the peaceful relations between states, and the concomitant reduction in the possibility that space would become the cause of, or the arena for, armed conflict.

Respect for the non-appropriation principle has helped to ensure the right of all states to engage in the exploration and use of space.[16] Moreover, the maintenance of outer space for peaceful purposes has fostered an environment where activities by both the public and the private sectors can be conducted, without the necessity for fortifications or militarily defensive armaments. The contribution to international peace and security has been a tangible benefit of space law for all mankind,[17] and underscores the importance of space to the future of the inhabitants of this planet.

Abrogation of Article II - Boon or Boondoggle?

In view of the importance of Article II to international peace and security, calls to abandon the doctrine must be viewed with critical skepticism. Abrogation of the non-appropriation principle cannot be justified merely because some believe that such action would be more convenient for space commerce. Rather, the principle must remain as a fundamental precept of the *corpus juris spatialis* unless and until it clearly can be demonstrated that the abandonment of the doctrine would not result in the export of armed hostilities into Earth orbit and beyond. That case has not yet been made.

The vacuum which would ensue should the non-appropriation principle cease to exist would not necessarily be conducive to the development of space commerce and the interests of the private sector. To the extent that claims could be made, would there be a "space rush" with a clean slate of celestial treasures open and available to be grabbed by the quickest or the strongest? Although states did not assert claims to the Moon or other celestial bodies based on space explorations in the early 1960's, would considerations of equity not allow claims, similar to historical precedents on Earth, to be made retroactively? Should claims for exploratory "firsts" after the entry into force of the Outer Space Treaty in 1967 also be recognized as an appropriate basis for the assertion of claims in outer space? Should the Bogota Declaration[18] be given effect? What would be left for private parties to claim, and on what criteria should claims be based?

The claims which could be asserted over outer space, including the Moon and other and celestial bodies, would not necessarily be consistent nor compatible with each other. On Earth, the enforcement of conflicting and overlapping claims ultimately has depended on military means. Clearly, the risk of disputes between competing claimants in space would be significant, and armed conflicts beyond the confines of this planet become not merely foreseeable

15. See Outer Space Treaty, *supra* note 1, at art. IV.

16. See *id.* at art. I.

17. *See* Sterns & Tennen, *Institutional Approaches to Managing Space Resources*, in PROCEEDINGS OF THE 41ST COLLOQUIUM ON THE LAW OF OUTER SPACE 33, at text & note 11 (1999)(*citing* statement by Eilene Galloway)[hereinafter referred to as "Sterns & Tennen, Institutional Approaches"].

18. Declaration of the First Meeting of Equatorial Countries, Bogota, Columbia, December 3, 1976, *text reproduced in* N. JASENTULIYANA & R.S.K. LEE, II MANUAL ON SPACE LAW 383 (1979).

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker

but inevitable. Thus, an atmosphere of insecurity would pervade the outer space environment, and the cost of conducting missions would increase in direct proportion to the defensive planning, armaments and weaponry made necessary for protection of personnel and spacecraft.

The cost of doing business in space would increase from other sources as well. States claiming sovereignty over an area in outer space, or on the Moon or other celestial bodies, would have little incentive not to impose substantial tribute in the form of taxes, royalties, duties, auction fees or other charges, for the use or occupation of their space property by other parties. These costs could be imposed by several different entities, each asserting overlapping, inconsistent and contradictory claims.[19] If private entities were able to assert their own claims of appropriation, separate and apart from the claims of states, the situation would become even more murky and convoluted.

The assertion of overlapping and competing claims in space would metamorphose the ability of all states to explore and utilize areas on or below the surface of celestial bodies from a right as guaranteed by Article I of the Outer Space Treaty, to a commodity available only to the highest bidder. Monopolies and other anti-competitive practices would inhibit and restrict rather than enhance and promote space commercialization. Therefore, it is clear that the abrogation of the non-appropriation principle would add significant levels of insecurity, inefficiency and expense to commercial ventures in space.[20]

Private Entities and National Appropriation

The necessity of the non-appropriation principle is firmly established, but it has been asserted that the scope of Article II excludes private entities. Thus, the conclusion has been put forward that the utilization of the term "national" appropriation necessarily exempts private entities, and thereby permits so called "private appropriation." No persuasive arguments have been offered to justify such conclusion, which is both fallacious and specious. Moreover, the Moon Agreement clearly expresses the preclusion of claims of ownership of the surface or subsurface of the Moon and other celestial bodies, or to natural resources in place by states as well as by a "non-governmental entity or any natural person".[21] Notwithstanding such explicit language, deeds to lunar acreage are offered for sale even in states that have ratified the Moon Agreement.[22]

National Activities in Space Law

The term "national," as used in the Outer Space Treaty, is defined by Article VI thereof to include all activities, irrespective of whether conducted by governmental or non-governmental entities. "National" appropriation prohibited by Article II, therefore, extends to and is fully applicable to appropriation conducted by public as well as private entities, all of which are considered to be

---

19. Sterns & Tennen, *Institutional Approaches, supra* note 17, at text & notes 43-46.

20. *See* Lee, *Creating an International Regime for Property Rights Under the Moon Agreement*, in PROCEEDINGS OF THE 42ND COLLOQUIUM ON THE LAW OF OUTER SPACE 409, 415 (2000); Sterns, Stine & Tennen, *Preliminary Jurisprudential Observations Concerning Property Rights on the Moon and Other Celestial Bodies in the Commercial Space Age*, in PROCEEDINGS OF THE 39TH COLLOQUIUM ON THE LAW OF OUTER SPACE 50, 54 (1997).

21. Moon Agreement, *supra* note 2, at art. 11.3.

22. Britt, *supra* note 3

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker

"national" activities by definition pursuant to Article VI.[23]

Can States License Violations of International Law?

The ability of non-governmental entities to conduct activities in space is recognized by Article VI, however, private entities must be authorized to conduct activities in space by the appropriate state of nationality.[24] A state cannot grant more authority to a non-governmental entity than is possessed by the state itself. Accordingly, it is apparent that states do not have the ability to authorize and license their nationals, or other entities subject to their jurisdiction, to engage in conduct such as appropriation of outer space and celestial bodies, which is prohibited to the state by positive international law.[25]

This is not a controversial concept, and cannot be the subject of serious dispute. That is, if it is asserted that a state can indeed authorize its nationals to "privately appropriate" areas of the Moon and other celestial bodies, notwithstanding Article II, then it must also be asserted that the state can similarly authorize its nationals to conduct other activities, in their capacity as private entities, in contravention of other articles of the Outer Space Treaty. Thus, under this construct, there would be no legal impediment to prevent states from licensing their nationals to place nuclear weapons or other kinds of weapons of mass destruction in Earth orbit or on celestial bodies, notwithstanding the prohibitions contained in Article IV of the Outer Space Treaty. After all, Article IV, like Article II, does not have an explicit reference to private entities within its provisions.

The foregoing analysis does not need to be limited to the Outer Space Treaty, or to other international instruments comprising the *corpus juris spatialis*. To be consistent, it must be asserted that a state could "privatize" its nuclear testing procedures, and license a private entity to conduct nuclear weapons tests above ground, in the atmosphere, or in outer space, contrary to the provisions of the Nuclear Test Ban Treaty.[26] Just like Article II, the Nuclear Test Ban Treaty is devoid of any explicit reference to the private sector. Obviously, the illogic of the argument, carried to its ultimate conclusion, would negate virtually every bilateral or multilateral agreement ever made. States would engage in every activity they agreed to restrict or limit by the convenient subterfuge of conducting the activity through the guise of the private, rather than the public, sector.[27]

Claims Registries and National Appropriation

The celestial claim registries similarly are unable to establish any legitimacy. For example, it has been

23. Statement of Prof. Kerrest during the UNITED NATIONS - TEPUBLIC OF KOREA WORKSHOP ON SPACE LAW (November, 2003).

24. Outer Space Treaty, *supra* note 1, at art. VI.

25. *See* C.W. JENKS, SPACE LAW 201 (1965); van Traa-Engelman, *Clearness Regarding Property Rights on the Moon and Other Celestial Bodies*, in PROCEEDINGS OF THE 39TH COLLOQUIUM ON THE LAW OF OUTER SPACE 38, 42 (1997); Sterns, Stine & Tennen, *supra* note 20, at 54 (1997).

26. Treaty Banning Nuclear Weapons Tests on the Surface of the Earth, in the Atmosphere, or in Outer Space, *entered into force* October 10, 1963, 14 U.S.T. 1313, T.I.A.S. No. 5433, 480 U.N.T.S. 43.

27. Sterns & Tennen, *Privateering and Profiteering on the Moon and Other Celestial Bodies: Debunking the Myth of Property Rights in Space*, in PROCEEDINGS OF THE 45TH COLLOQUIUM ON THE LAW OF OUTER SPACE 56 (2003), and 31 ADV. SPACE RES. 2433 (2003).

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker

suggested that states could unilaterally establish a domestic registry to document claims of their nationals to space resources, purportedly consistent with the non-appropriation principle. The "consistency" is provided by the artifice of proclaiming this registration scheme simply "not to be appropriation." Thus, one group of proponents has asserted that "[i]n doing so, the nation could make it clear that it was *not claiming* sovereignty over such resources, but *simply recognizing the claims* of its citizens (emphasis added)."[28] This is a distinction without a difference.

The recognition of claims by a state is only one side of the coin. The other side is the exclusion or rejection of any competing or conflicting claims. The establishment of a "claims registry" would constitute a *de facto* exclusion of other states and their nationals, which by its very nature would constitute a form of national appropriation.[29] Moreover, any form of state recognition of claims by its nationals to extraterrestrial property would constitute national appropriation "by any other means" prohibited by Article II, no matter what euphemistic label is employed to mask the obvious.

Regulation of the Use of Celestial Property

The focus on private ownership of celestial property is misdirected. The fee simple ownership of property is not an invariably necessary component to the commercial use of resources, even on Earth. Numerous examples can be found where a private entity is able to legally and profitably extract and utilize resources from property which it does not own. Grazing leases on public lands, offshore oil platforms, and logging rights are all examples where profit is available to private enterprise despite the absence of property ownership.[30]

The fee simple ownership of extraterrestrial property similarly is irrelevant to the profitability of a venture providing products or services derived from celestial resources. Thus, the private sector should concentrate on the development of profitable ventures based on the use of extraterrestrial resources. Ownership is relevant only where it is intended that the source of the profit is derived from the claim of ownership, and the corresponding alienation thereof for economic consideration.[31]

The extant space treaties did not have as their primary purpose the detailed regulation of commercial activities and the relationships among private entities or between states and private entities.

---

28. Dasch, Smith & Pierce, *Conference on Space Property Rights: Next Steps*, in PROCEEDINGS OF THE 42ND COLLOQUIUM ON THE LAW OF OUTER SPACE 178 (2000).

29. Pop, *Appropriation in Outer Space, The Relationship Between Land Ownership and Sovereignty on the Celestial Bodies*, 16 SPACE POLICY 275, 278 (2000); Reif, *Project 2001: Conclusions and Recommendations of the Working Group on Privatization*, in PROCEEDINGS OF THE 44TH COLLOQUIUM ON THE LAW OF OUTER SPACE 3, 8 (2002).

30. *See, e.g.*, 43 U.S.C.A. §§ 315 (grazing); 1181a (timber); 1331 (oil); *see also* Christol, *The Natural Resources of the Moon: The Management Issue* in PROCEEDINGS OF THE 41ST COLLOQUIUM ON THE LAW OF OUTER SPACE 3 (1999)(observing that parties have sold or leased portions of the International Telecommunications Union allotments to third parties, without claiming ownership thereof in light of article 33 of the ITU Convention, which grants only the right to use an orbital position or frequency allocation for a limited period of time).

31. *See* Summary of Discussion, in PROCEEDINGS OF THE 41ST COLLOQUIUM ON THE LAW OF OUTER SPACE 289, 290 (1999) (statement of Dr. Jasentuliyana).

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker

Virtually every article of the Outer Space Treaty has relevance to commercial ventures in one context or another. Most provisions of the current space treaties might be considered ambiguous in the literal text, and have both positive as well as negative implications for commercial development. Thus, the non-appropriation doctrine in this regard in double edged: while it prevents an entity from establishing a monopoly, it prevents the competition from establishing one as well.

Protection of the Private Sector

The interests of the private sector are directly served by the express recognition of the ability of non-governmental entities to conduct activities in space, subject to the authorization and continuing supervision of the appropriate state of nationality.[32] The Outer Space Treaty does not mandate any particular form of regime for the authorization and continuing supervision of non-governmental entities in space, and states have adopted several different forms of administrative oversight consistent with national interests and policies.[33] Nevertheless, states have a duty to ensure that missions which receive licenses are conducted in conformity with international law.[34]

The requirement of state authorization and continuing supervision will afford a significant measure of protection to private entities. States which grant a license to a private entity to conduct a mission in space would be unlikely to directly interfere *in situ* with a project operated in a legal and lawful manner. The licensing state also would be unlikely to license another private entity to directly interfere with a previously authorized mission. In the event harmful interference was caused or threatened by the activities of governmental or non-governmental entities of another state, international consultations could be conducted in accordance with article IX of the Outer Space Treaty. Should interference occur, liability could be imposed pursuant to the provisions of the Outer Space Treaty, and where applicable, the Liability Convention.[35] While further elaboration and refinement of regulation of non-governmental entities in space, of course, will be necessary, and much will be influenced by future events, the extant *corpus juris spatialis* contains the basic parameters within which both domestic and international regulation will be developed.

The question for the private sector ultimately is what will be the substance of the future regulation of space commerce? This will be addressed in detail by other speakers at this Symposium, with particular reference to the concept of the common heritage of mankind, and will not be discussed in detail herein. However, it is submitted that the form of regulation may vary with the locus of a mission. That is, no single model of regulation will be appropriate or effective for all venues, such as celestial bodies, and the surface, subsurface or portions thereof, or the projects which may be conducted by a variety of entities. Thus, what may be appropriate for the Moon may not be adequate for Mars, or Deimos and Phobos,

32. Outer Space Treaty, *supra* note 1, at art. VI.

33. *See generally* F.G. VON DER DUNK, PRIVATE ENTERPRISE AND PUBLIC INTEREST IN THE EUROPEAN 'SPACESCAPE' (1998).

34. Outer Space Treaty, *supra* note 1, at art. III.

35. Convention on International Liability for Damage Caused by Space Objects, *opened for signature* March 29, 1972, 24 U.S.T. 2389, T.I.A.S. No. 7762, 961 U.N.T.S. 187, *text reproduced in* UNITED NATIONS TREATIES AND PRINCIPLES ON OUTER SPACE 13 (2002).

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker

or the asteroids, or the Apollo-Amour class asteroids, *et cetera*.[36]

Experiences with the Law of the Sea Convention, and the World Trade Organization, may provide useful guidance for the regulation of space commerce. Specifically, the foundational instruments for both the LOS[37] and the WTO[38] were modified in 1994. These modifications demonstrated that international agreement can be achieved on trade and commerce issues in traditional as well as non-traditional venues, when emphasis is placed on market principles, as well as legal process and procedures.[39] These examples, furthermore, illustrate that certain characteristics may be of paramount importance for any international regulatory authority, including: utilization of flexible and evolutionary approaches to limit bureaucratic structures; the promotion of international cooperation; the preservation of equality of opportunity; appropriate representation of states commensurate with their interests; and finally, the creation of juridical regimes which are neutral arbiters, and which do not engage in unfair competition with private entities subject to their regulatory authority.

Conclusion

The non-appropriation principle has been essential for the promotion of international peace and security, and preventing the spread of armed conflict to outer space, including the Moon and other celestial bodies. The preservation of space for peaceful purposes inures to the direct benefit of the interests of space commercialization. The purposes served by the non-appropriation principle remain as valid today as when the doctrine was first articulated in the early days of the space age. This is sufficient reason in and of itself for Article II to remain a basic precept of international space law.

The view that the non-appropriation principle presents an obstacle and hindrance to space commerce is short-sighted and myopic. Abrogation of Article II would not be as beneficial as the opponents of the doctrine assume. Overlapping and conflicting claims by states and other entities will lead to an unstable and insecure environment for the private sector activities, and a jumble of contradictory authorities asserting some perceived right to control activities on "their" celestial property. Furthermore, there may be nothing left to be claimed. The rights of states to assert claims, both prospectively and retroactively, would have to be respected. The current vendors and registrars of extraterrestrial deeds already claim to own everything in the cosmos, even with Article II as a component of positive international law.

---

36. Jenks, *supra* note 25, at 201; for a discussion of the definition of celestial bodies, see Fasan, *Asteroids and Other Celestial Bodies - Some Legal Differences*, 26 J. SPACE L. 33 (1998).

37. G.A. Res. 48/263 (July 28, 1994).

38. Uruguay Round's Understanding on Rules and Procedures Governing the Settlement of Disputes, *text reproduced in* GATT, The Results of the Uruguay Round of Multilateral Trade Negotiations: The Legal Texts (1994); *see also* Final Act Embodying the Results of the Uruguay Round of Multilateral Negotiations, *opened for signature* April 15, 1994, *in Uruguay Round of Multilateral Trade Negotiations: Legal Instruments Embodying the Results of the Uruguay Round of Multilateral Trade Negotiations done at Marrakesh on April 15, 1994*, 33 I.L.M. 1143 (1994).

39. The United States has indicated that the restructuring of the seabed mining regime along free market lines comports with the principle of the common heritage of mankind. U.S. Senate, 103rd Cong., 2nd Sess., UNITED NATIONS CONVENTION ON THE LAW OF THE SEA, WITH ANNEXES, AND THE AGREEMENT RELATING TO THE IMPLEMENTATION OF PART XI OF THE UNITED NATIONS CONVENTION ON THE LAW OF THE SEA, WITH ANNEX, Treaty Document 103-39, at 61 (1994).

This article from International Institute of Space Law is published by Eleven international publishing and made available to anonieme bezoeker

The abrogation of the non-appropriation principle will have further negative implications for the private sector. The cost of doing business in space would increase by the monetary tribute which will be exacted by every claimant to a particular area for the use of that area. The ability to explore all areas of the cosmos will become a commodity, rather than a right as under current international law. Moreover, space commerce will become even more expensive by the costs incurred as a result of the necessity to plan, construct and deploy defensive armaments and fortifications. Ultimately, the enforcement of claims in space will be dependent upon military means.

The prohibition of national appropriation in Article II applies with equal force to non-governmental entities as a matter of definition pursuant to Article VI. In addition, an interpretation which excludes the private sector from the ambit of Article II, and permits states to license so-called "private appropriation," also would have to exclude the private sector from other articles of the Outer Space Treaty, and, for that matter, all other international agreements. Such an interpretation clearly is illogical and cannot form the basis for the assertion of private rights in international law.

The focus on the unfettered private ownership of celestial property is misplaced, as the ability to provide goods and services derived from the resources of space is not dependent upon the assertion of fee simple ownership of areas on celestial bodies. The future regulation of space commerce will center on the use of space resources in accordance with international law. The extant *corpus juris spatialis* inherently is neither pro- not anti- the private sector. On the other hand, the requirement that the activities of non-governmental entities in space be authorized and supervised by the appropriate state of nationality, together with the provisions concerning international consultations and international liability for damages, provide a firm foundation on which the protection of the private sector in space can be constructed.

Finally, the "lunar debris express" mission illustrates the need for effective and efficient licensing regimes. While the details of the mission have not been able to be verified,[40] it is difficult to conceive of a state granting approval for a mission specifically designed spread trash over the lunar surface. It is also doubtful that the intent of a paying customer to declare ownership of the Moon was explicitly included in the disclosures made during any licensing process. As a practical matter, a license applicant may not be aware of all the intentions of its clients and customers, and it may not even be foreseen that acts or declarations in contravention of law are planned. Nevertheless, should authority for any such mission be granted in the first instance, it would be both appropriate and prudent for the license to be cancelled, revoked or restricted pending modification of the mission plan to conform to the obligations of international law.

The author expresses his gratitude to Patricia Margaret Sterns for her invaluable assistance in the preparation of this presentation.

40. Britt, *supra* note 3.