Circumventing Non-Appropriation: Law and Development of United States Space Commerce

by Nikhil D. Cooper*

Introduction

In 2001, Dennis Tito spent six days in the Russian section of the International Space Station.¹ Though he did little else other than listen to opera records and take pictures of the breathtaking view,² Dennis Tito made history in outer space as the first paying "space-tourist."³ For many space law commentators, Tito's trip is just the beginning of an unprecedented commercial expansion into outer space that is possible, if not probable, within a generation. Already, within the last seventy years, modern space-faring nations have achieved feats that would have certainly seemed unimaginable to our forefathers: Sending and returning people from orbit and the Moon; viewing pictures and film from the surface of Mars; and; discovering habitable planets in the distant solar systems of even more distant galaxies. But to say that space has been explored only as a scientific venture would be to turn a blind eye to ways nations such as the United States have fostered the commercial expansion of private companies into space. Even despite a series of international treaties that deny any member state the ability to appropriate space, the private commercial space

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² Id.
³ Id.

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industry is booming and looms large in the future as a substantially profitable enterprise.  

While the marriage of space and business may have many United States investors seeing stars, one nagging issue threatens to dampen new developments in American space commerce: United States treaty obligations may prohibit its involvement in the developing space commerce industry. Part I of this Note will outline the basic structure of the United States treaty obligations and suggest that the international prohibition against the sovereign appropriation of space may in fact illegitimate and proscribe United States action in private space commerce ventures. Part II will examine the present day marriage of government and private industry. Part III will question the extent to which such an arrangement violates certain international treaty obligations and how the judiciary might harmonize the two. Part IV will argue that the robust development of future space commerce may warrant the complete withdrawal of the United States from its treaty obligations. Finally, when discussing both of the solutions in Part III and Part IV, this Note will necessarily be forced to encounter the constitutional issues raised by treaty interpretation and treaty withdrawal. Still, with no clear answers, this Note will maintain that either solution is necessary and vital to the continued exploration and development of space.

I. The Roots of Space Law

Scientists disagree as to exactly where territorial airspace ends and extraterritorial outer space begins. Regardless, most scholars generally demarcate 100 to 110 kilometers above Earth sea level as the starting point of space. For the space craft’s occupants, hurtling past this boundary would signal numerous physical shifts, including, most famously, becoming weightless. However, less obvious is the legal shift that takes place once a craft crosses this boundary. Most notably, the where of the craft changes because the principle of national sovereignty, a defining feature of territorial air space law, is absent once a craft crosses the airspace/outer space boundary.

4. See infra notes 138–40 and accompanying text.
6. Id.
7. Freeland, supra note 1, at 7.
A. Outer Space Treaty of 1967

The lack of national sovereignty in space results from a series of multilateral treaties beginning with the Treaty on Principles governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies ("Outer Space Treaty") promulgated in 1967 by The Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space ("COPUOS"). The treaty was signed during a period when the United States and the Union of Soviet Socialist Republics ("U.S.S.R.") were attempting to outdo one another in outer space achievements. This so-called "Space Race" began in 1957 when the Soviets successfully launched the first orbiting satellite, Sputnik. Soon after Sputnik's launch, the Soviets achieved the first launch and return of a human from space. Driven by the Soviet Union's success, the United States pushed ahead with Apollo 11 and, in 1969, became the first nation to land a man on the Moon.

The Outer Space Treaty was an attempt to alleviate the political tensions resulting from the Space Race through a number of good-neighbor provisions and mutually agreed upon understandings between nations. The treaty espoused the key doctrine of all space law development for the next forty years, the doctrine that no one nation had a greater claim to space or celestial bodies greater than that of their neighbor—the doctrine of res communis. The Outer Space Treaty of 1967 effectively declared space the province of all mankind and in doing so, implicitly rejected the res nullius view of space as "unclaimed territory" available for conquest and capture. A res nullius approach of outer space would allow nations who first reached celestial bodies to claim ownership to the exclusion of all other nations. In contrast, the res communis approach would conceive of outer space as a common resource, granting all nations open access while

10. Id.
11. See Manzione, supra note 5, at 513.
12. Id.
13. Id.
14. Listner, supra note 9, at 77.
15. See Outer Space Treaty, supra note 8, at art. I.
16. Listner, supra note 9, at 77.
denying each exclusive possession.17

Article I of the Outer Space Treaty articulated the principles of res communis, stating that "the exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and interests of all countries . . . and shall be the province of all mankind."18 Article II was especially significant, as it strengthened the commitment to the res communis paradigm by stating that neither outer space nor celestial objects including the Moon would be "subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."19

The deficiency of Article II is that if the notion was to foreclose the appropriation of all celestial objects, the Article failed in that way to adequately account for the actions of private actors.20 Based on this oversight, many private companies whose countries of origin are not signatories to the Outer Space Treaty have asserted their res nullius claims to celestial property.21 Indeed, by not expressly foreclosing private claims of ownership, it remained at least theoretically possible for individuals to assert celestial property rights.

But it is perhaps unfair that the 1967 Outer Space Treaty be cited too harshly for this omission. The critique stems from a contemporary understanding of transnational international relations in which non-governmental organizations and multinational corporations play a larger role. Article II should be understood as a product of a time when only two nations, the United States and the U.S.S.R., had demonstrated space-faring capabilities. It is no small wonder then that Article II’s primary focus concerned state actors rather than state agents. A fairer evaluation of Article II would posit that it failed to envision future forms of commercial exploitation of space that were not based on national appropriation. However, it is important to note that Article II did establish a practical principle of national non-appropriation and, in this way, buttressed the res communis principles of Article I by preserving the benefits of outer space for more than just the United States and the U.S.S.R.22

Article IV addressed the specific Cold War fear of nuclear weapons being used from outer space by proscribing the placement of weapons of mass destruction in orbit around the Earth and prohibiting the use of

17. Id.
18. Outer Space Treaty, supra note 8, at art. I.
19. Id. at art. II.
20. See Listner, supra note 9, at 78.
21. Id.
22. See Outer Space Treaty, supra note 8, at art. II.
celestial objects as military bases.\textsuperscript{23} Again, the efficacy of this treaty provision became a victim of its time as it did not foresee or proscribe the use of other kinds of “defensive” weaponry, such as President Ronald Reagan’s controversial anti-missile defense shield.\textsuperscript{24} In his Strategic Defense Initiative, President Reagan requested a variety of weaponry designed to intercept inbound nuclear warheads that were not expressly forbidden by Article IV including space-based lasers, ground-based lasers, X-ray lasers, particle weapons, and rail guns.\textsuperscript{25} Though such weapons were not envisioned at the time of drafting, it is certainly reasonable to critique the drafters’ lack of foresight when limiting Article IV’s scope to weapons of mass-destruction. Article V repeated Article IV’s attempt to alleviate Cold War tensions by providing that member states render “all possible assistance” to astronauts of other member states “in the event of accident, distress, or emergency landing on the territory of another State Party or on the high seas.”\textsuperscript{26} Article V further provided for the safety of member states’ astronauts by stating that they “shall be safely and promptly returned to the state of registry of their space vehicles.”\textsuperscript{27}

Article VI of the treaty made the signatory state liable for all the “national” actions of its government and non-governmental agencies in outer space.\textsuperscript{28} Article VI’s text offered no detailed definitions for what such “national” activities were presumed to be and mandated only that the space activities of non-governmental entities “require authorization and continuing supervision by the appropriate State party to the Treaty.”\textsuperscript{29} Article VII established a strict liability standard for states launching or procuring the launching of objects into space.\textsuperscript{30} Any damage caused by their launch or activity in space or return to earth fell squarely upon the launching state.\textsuperscript{31} Article VIII also added that a launching state “shall retain jurisdiction and control over such an object, and over any personnel thereof, while in outer space, or on a celestial body” or upon its return to Earth.\textsuperscript{32} Despite the lack of national sovereignty in space, Article VIII made clear that the terrestrial ownership of objects launched into outer

\begin{itemize}
\item \textsuperscript{23} \textit{Id.} at art. IV.
\item \textsuperscript{24} Listner, \textit{supra} note 9, at 79.
\item \textsuperscript{25} \textit{Id.}
\item \textsuperscript{26} Outer Space Treaty, \textit{supra} note 8, at art. V.
\item \textsuperscript{27} \textit{Id.}
\item \textsuperscript{28} \textit{Id.} at art. VI.
\item \textsuperscript{29} \textit{Id.}
\item \textsuperscript{30} \textit{Id.} at art. VII.
\item \textsuperscript{31} \textit{Id.}
\item \textsuperscript{32} \textit{Id.}
\end{itemize}
space remained unaffected by their activities while operating in space or upon their return to the Earth.\textsuperscript{33}

Taken together, Articles VI, VII, and VIII of the Outer Space Treaty exist in a certain tension with Articles I, II, and IV. On the one hand, the broad goal of the treaty is to prevent the assertion of national sovereignty over celestial objects; yet, on the other hand, Earth objects launched into space retain their ownership and are protected and regulated heavily by the launching state. In this way, the treaty's text seems to proscribe one type of celestial property right—namely the rights found in extraterrestrial bodies—while otherwise protecting the activities and property of states operating in outer space.

\textbf{B. Subsequent Treaties}

Subsequent treaties to the Outer Space Treaty did much to expand upon the idea of property rights found in its Articles VI, VII, and VIII. The Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space ("Rescue Agreement") enlarged the Article V "rescue requirement" of the Outer Space Treaty by mandating states to take all possible steps to rescue and assist astronauts in distress and promptly return them to the launching state.\textsuperscript{34} The Rescue Agreement also provided that states shall, upon request, provide assistance to launching states in recovering space objects that return to Earth outside the territory of the launching state.\textsuperscript{35}

The Convention on International Liability for Damage Caused by Space Objects ("Convention") defined further the principles inherent in Articles VI and VII of the Outer Space Treaty by detailing the nature and extent of liability attendant upon a state for its actions in space.\textsuperscript{36} Article II of the Convention held states absolutely liable for damage, even in cases of force majeure, if the damage caused to the third state occurred "on the surface of the earth or to aircraft in flight."\textsuperscript{37} Article VI of the Convention exonerated a launching state if that state could establish that "the damage has resulted either wholly or partially from gross negligence or from an act or omission done with intent to cause damage on the part of a claimant

\textsuperscript{33} Id. at art. VIII.
\textsuperscript{34} Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, Dec. 3, 1968, 19 U.S.T. 7570, 672 U.N.T.S. 119.
\textsuperscript{35} Id.
\textsuperscript{37} Id. at art. II.
State or of natural or juridical persons it represents." In the case of damage caused in space, liability was apportioned according to fault.\textsuperscript{38} When multiple states were liable for such damage, Article IV of the Convention held each state jointly and severally liable for the damage resulting to the third state.\textsuperscript{39} Presumably, by tying levels of liability into the geographic location of the harm, the Convention bridged the \textit{res communis} principle with national airspace principles that govern modern aviation jurisprudence.\textsuperscript{40}

In some ways, the logical outgrowth of the 1972 Liability Convention was 1975's Convention on the Registration of Objects Launched into Outer Space ("Registration Convention") that required a launching state to provide a national registration of space objects.\textsuperscript{41} In addition, Article IV of the Registration Convention mandated that each state provide the United Nations with details about the object launched, including general function and orbital parameters.\textsuperscript{42}

The Outer Space Treaty and its three progeny were all signed and ratified by the United States and what is today the Russian Federation. In 1979, however, the United States revealed the limits to which it was willing to constrain its future space development by failing to sign and ratify the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies ("Moon Treaty").\textsuperscript{43} Embracing much of the same language and provisions of the Outer Space Treaty, the Moon Treaty extended the national non-appropriation principle enunciated in Article I of the Outer Space Treaty by closing the perceived loophole, allowing for private ownership of celestial bodies: "[N]either the surface nor the subsurface of the Moon, nor any part thereof or natural resources in place, shall become property of any State, international intergovernmental or non-governmental organization, national organization or non-governmental entity or of any natural person."\textsuperscript{44} The Moon Treaty also prohibited claims to lunar property through possession: "The placement of personnel, space vehicles, equipment, facilities, stations and installations on or below the

\textsuperscript{38} Id. at art. VI.
\textsuperscript{39} Id. at art. III.
\textsuperscript{40} Id. at art. IV.
\textsuperscript{41} See Freeland, supra note 1, at 7.
\textsuperscript{43} Id. at art. IV.
\textsuperscript{44} Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, Dec. 5, 1979, 610 U.N.T.S. 205.
\textsuperscript{45} Id. at art. XI.
surface of the moon, including structures connected with its surface or subsurface, shall not create a right of ownership over the surface or the subsurface of the moon or any areas thereof. 46 Finally, the Moon Treaty incorporated these provisions to include “other celestial bodies within the solar system,” 47 excluding only “extraterrestrial materials which reach the surface of the earth by natural means.” 48

Yet, even as the Moon Treaty purported to close the loophole allowing private appropriation, its terms also represented a marked departure from the non-appropriation principle contained within the Outer Space Treaty and its progeny. The Moon Treaty does not fully proscribe nations or their nationals from realizing any form of commercial value in extraterrestrial objects. Rather, the treaty encourages the “freedom of scientific investigation” 49 and grants states “the right to collect on and remove from the Moon samples of materials and other substances.” 50 Such samples remain at the disposal of the collecting state 51 and thereby assume certain features of property, such as exclusive ownership and alienation. Moreover, the treaty explicitly calls for an international regime “to govern the exploitation of the natural resources of the Moon” when such exploitation proves feasible. 52 The stated purposes of the international regime include “the orderly and safe development of the natural resources of the Moon,” 53 “[t]he rational management of those resources,” 54 and “[t]he expansion of opportunities in the use of those resources.” 55 Presumably such language envisions uses of lunar natural resources in a commercial manner. In reference to these provisions, the treaty may be reviewed within five years and must be reviewed within ten. 56

When compared to the Outer Space Treaty and its three progeny, it may appear somewhat puzzling as to why the Moon Treaty failed to receive the support of the United States and the U.S.S.R. While the Moon Treaty expressly forecloses the ownership of celestial property to all agents, it also grants states the right of use. Specifically, under the Moon

46. Id.
47. Id. at art. I.
48. Id. at art. I.
49. Id. at art. VI.
50. Id.
51. Id.
52. Id. at art. XI.
53. Id.
54. Id.
55. Id.
56. Id. at art. XVIII.
Treaty's terms, states can scientifically and commercially exploit the natural resources found in celestial property. This "mining license" is significant because it effectively grants signatory states positive celestial property rights within an international treaty structure that facially disclaims such appropriative capacities.

One possible explanation as to why the Moon Treaty was never signed by the United States may turn on the interrelatedness between the government and the private sector in the history of space commerce. Since the private sector was expressly proscribed from extraterrestrial ownership under the Moon Treaty, signing the treaty would explicitly prohibit governments from benefiting from their private industry counterparts.

II. Private Commercial Development

The National Aeronautics and Space Act of 1958 lists the "[c]ommercial use of space" as the third purpose of the National Aeronautics and Space Administration ("NASA"). Specifically, the section states, "Congress declares that the general welfare of the United States requires that the National Aeronautics and Space Administration (as established by subchapter II of this chapter) seek and encourage, to the maximum extent possible, the fullest commercial use of space." What form did this and other government encouragement take?

A. Space Commerce and Regulation

In the United States, the history of space commerce begins with the Communications Satellite Act of 1962 ("CSA"), which originally envisioned a global communications satellite network designed to promote domestic and global communication. In an attempt to include private communication carriers without turning over complete control of CSA's governance structure to private industry, Congress created the Communications Satellite Corporation ("ComSat"). As one aspect of striking that balance, ComSat was organized as a joint-venture with corporate stock prorated between American and foreign carriers, aerospace companies, equipment manufacturers, and the general public. The

57. Freeland, supra note 1, at 14.
59. Id.
62. Id. at 316.
objective of such an industrial structure was to merge the profit incentives of private ownership with the wide diffusion of its benefits. The CSA attempted such a broad distribution of benefits through imposing a highly regulated system of controlling internal communications, assuring equipment suppliers competitive access, broadly distributing corporation stock, and providing service to unprofitable foreign markets when such service was deemed to be in the national interest.

In this way, the CSA was notable because its regulatory structure indicates that even at a time prior to the United States' ascendance into space, future space utilization was conceived as a marriage between government and private industry. While the activities of the latter would maximize profit, government involvement and regulation ensured that the benefits realized from space were protected and diffused as widely as possible. This is the same logic that is applied to other industries, such as telecommunications and public utilities, where the cost of entry into the market (capital outlay, research and development, refining technical expertise, etc.) is so steep as to effectively bar prospective market entrants. Theoretically, government regulations are in place to counter the oligopolistic proclivities of such markets while simultaneously ensuring that industry actors realized reasonable gains from innovation and industry.

B. Deregulation and Consequences

However, it may be the case that such government regulations worked too well when regulating the growing space commerce industry. In the years that followed the CSA's passage, the development of domestic commercial launch capabilities resulted in industry-wide pressure to revise the complex regulatory scheme governing commercial launch. The general flaw with many governmental regulatory schemes was that as space commerce developed, the regulations that were intended to manage and oversee the space-launch system overburdened prospective launchers by mandating compliance with a multitude of onerous filing and licensing requirements. Consequently, the legal requirements of launching an object into space imposed a nearly impassable regulatory bureaucracy onto the existent costs of developing, testing, and securing an object for launch.

The following example illustrates the problematic combined effect of the government's launch service monopoly and its regulatory bureaucracy:

63. Id.
64. Id.
66. Id.
When Space Services Incorporated of America ("SSI") sought to launch the first private commercial Expendable Launch Vehicle ("ELV"), known as the Conestoga I, through the United States Space Transport System ("STS"), it had to contact every governmental agency that could conceivably have jurisdiction over the launch.\(^{67}\) To satisfy its licensing requirements, SSI had to petition the Department of State, Federal Aviation Administration, Coast Guard, Bureaus for Materials and Motor Carriage Safety, Federal Communications Commission, NASA, Department of Defense, Department of Commerce, Bureau of Alcohol, Tobacco, and Firearms, Navy, and Internal Revenue Service.\(^{68}\) Each agency maintained some conceivable control over a facet of the Conestoga I's launch—thereby requiring not only notification, but time to study the launch plans, deliberate, and negotiate permits and licenses with SSI.\(^{69}\) Most tellingly, after SSI had secured approval from the necessary agencies, the single most expensive cost of its satellite launch was the cost SSI incurred to jump through governmental regulatory hoops.\(^{70}\) The effects of such a complex regulatory bureaucracy were heightened by the lack of alternatives in domestic launch services. Until 1982, the United States held a domestic monopoly on launch services to space.\(^{71}\) In that year, President Reagan announced that the STS would continue to operate as the nation’s primary space-launch system for both national security and civil government missions.\(^{72}\) One effect of the announcement was to limit development of alternate space-launch vehicle industries such as the ELV.\(^{73}\) Another effect of the announcement was that it relegated private companies hoping for a cheaper and streamlined launch process through ELVs back to the nightmarishly bureaucratic STS launch system.

Over the next two years, growing industry frustration associated with the STS system pressured President Reagan into issuing an executive order on February 24, 1984, designating the Department of Transportation (DOT) as the lead executive agency for facilitating commercial ELV operations and coordinating the procurement of ELV launch licenses with other

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67. Yelton, supra note 65, at 118. An ELV is a non-reusable rocket used to place a payload into space that provides an alternative to STS launch operations.

68. Id. at 120–25.

69. Id.

70. Id. at 120.

71. Id. at 117.

72. United States Space Policy, 18 WEEKLY COMP. PRES. DOC. 872, 873 (July 4, 1982).

government agencies. The newly streamlined process faced another setback just two years later when the tragic loss of the Challenger Shuttle on January 28, 1986 grounded the Shuttle fleet until 1988 and stymied the direct government development of commercial space launch vehicles. In 1988, President Reagan laid out a “mixed fleet” approach that limited commercial launches via the STS system to instances where the commercial payloads required launch via STS or for reasons of national security and foreign policy.

The latest piece of congressional legislation regulating the commercial space industry was the Commercial Space Launch Act (CSLA) that was spurred on in part by the host of new technologies capable of commercially exploiting space. The CSLA streamlined the earlier space-launch bureaucracy and mandated the DOT to issue licenses for all commercial space launch programs, regulate forms of space tourism and space advertising, impose minimum liability insurance and financial responsibility requirements, and provide for administrative and judicial review of DOT Secretariat decisions.

III. A Legal System?

The CSLA represents the most recent and comprehensive United States space commerce legislation; but, in the years since its passage, no one has seriously questioned its consistency with United States international obligations of “non-appropriation.” The issue is especially apt now, however, because the current and future capacities of commercially exploiting space seem primed to challenge non-appropriation as the guiding theme in space commerce. Therefore, the question we must ask now is whether or not the United States is circumventing the intent of

75. Yelton, supra note 65, at 119.
76. Id.
80. See 49 U.S.C § 70105; id. § 70105(a) (2003) (discussing provisions related to safety of space tourists).
82. See id § 70112 (2003).
83. See id. § 70110 (2003).
non-appropriation by encouraging and protecting private commercial expansion into space.

A. Treaties Versus Congressional Acts

Whether the regulatory regime outlined in the CSLA conflicts with the national non-appropriation principle, as outlined in the Outer Space Treaty of 1967 and in its succeeding treaties, is an issue that could be reviewed by the federal judiciary under its constitutional grant of subject-matter jurisdiction over cases "arising under" treaties. The judiciary's power to interpret treaties is a power distinct from the treaty-making authority delegated to the executive and legislative branches. Article II of the United States Constitution authorizes the president to ratify treaties with the consent of two-thirds membership of the Senate. Treaties entered into in this manner are the supreme law of the United States and bind state constitutions, legislatures, and judiciaries.

Generally, courts employ distinct methods of interpretation when called on to perform the separate but related tasks of interpreting treaties and resolving treaty-statutory disputes. As to the former, courts generally will liberally construct a treaty "to give effect to the purpose which animates it" and will prefer that liberal construction "[e]ven where a provision of a treaty fairly admits of two constructions, one restricting, the other enlarging [of] rights which may be claimed under it." A preference for broad construction, however, is not a license for courts to impose any interpretation they deem appropriate. For example, although courts have a greater ability to construct treaties more broadly than private contracts, they are still precluded from interpreting a treaty beyond the "apparent intent and purport" of its language. In this way, determining a treaty's "intent" delineates the boundaries of how broadly or narrowly the court may interpret a treaty's provision.

Courts obviously have a much easier time determining a treaty's intent where the treaty language is unambiguous. In these instances, courts expressly forbid looking beyond the language of the treaty to supply the intent of the parties at the time the treaty was drawn. When the language

85. Id. at art. II, § 2, cl. 2.
86. Id. at art. VI, § 2, cl. 2.
89. See Maxinov v. United States, 373 U.S. 49, 54 (1963); see also United States v. Texas 162 U.S. 1, 36–37 (1896).
of the treaty is ambiguous, however, the court will attempt to effectuate the drafter’s intent through a broader inquiry into “the letter and spirit of the instrument,” and may take into account “considerations deducible from the situation of the parties; and the reasonableness, justice, and nature of the thing, for which provision has been made.” The United States Supreme Court summarized its interpretive process in the case *Eastern Airlines Inc., v. Floyd*:

> When interpreting a treaty, [begin] “with the text of the treaty and the context in which the written words are used.” [When confronted with difficult or ambiguous passages, the Court provided that] [o]ther general rules of construction may be brought to bear[.] [And it finally noted that] treaties are construed more liberally than private agreements, and to ascertain their meaning we may look beyond the written words to the history of the treaty, the negotiations, and the practical construction adopted by the parties.

Treaty interpretation as described above is important when determining whether the treaty conflicts with an act of Congress. Each being the supreme law of the land, treaties and congressional acts are governed by the last-in-time rule: when they conflict, courts must privilege the last enacted treaty or congressional act over the other. Still, federal courts often avoid finding such conflicts between congressional acts and treaty obligations. As Justice Marshall opined in 1804:

> [A]n act of Congress ought never to be construed to violate the law of nations if any other possible construction remains, and consequently can never be construed to violate neutral rights, or to affect neutral commerce, further than is warranted by the law of nations as understood in this country.

Supreme Court jurisprudence since has largely followed the same presumption and, therefore, courts are inclined to harmonize treaties and congressional legislation that are seemingly antithetical to one another. In the event that a congressional act were to supplant United States treaty obligations, courts would look for unambiguous evidence appearing

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90. Ware v. Hylton, 3 U.S. (3 Dall.) 199, 249 (1796).
92. *Id.* at 535 (quoting *Schlunk*, 486 U.S. at 699).
“clearly and distinctly” in the text of the statute or treaty provision. In other words, repeals of prior statutes or treaty provision must likely be made express. In contrast, “repeals by implication” are generally disfavored “unless the last statute is so broad in its terms and so clear and explicit in its words as to show that it was intended to cover the whole subject, and, therefore, to displace the prior statute.”

B. CSLA Versus the Outer Space Treaty

Both being duly enacted, the CSLA and the Outer Space Treaty are considered the supreme law of the land. If there is a conflict between the United States space commerce provisions as outlined in the CSLA and the Outer Space Treaty, a reviewing court would first be called upon to interpret the intent of the treaty itself. Recall that in the context of treaty interpretation, a court would be at liberty to give the treaty a broad construction to effectuate its intent. The key provision of the Outer Space Treaty at issue would be the language of Article II which forecloses “national appropriation” of space by claims of sovereignty, means of use, occupation, or any other means.

Black's Law Dictionary defines “appropriation” as “the exercise of control over property, a taking of possession.” If defined broadly enough, the joint enterprise nature of the United States space commerce, as implemented in the CSLA, might violate the “spirit” of non-appropriation as outlined in the Outer Space Treaty of 1967. The best argument one could make against the CSLA’s provisions is to advocate the court to broadly interpret the “appropriation” principle of the Outer Space Treaty. The proponent of this argument would urge that in so doing, a court should look beyond the words of the treaty and examine the history, negotiations, and practical considerations at the time of the treaty’s negotiation to determine its true intent. One would also want to argue that the space commerce industry violates perhaps not the “letter” of the treaty, but circumvents entirely its “spirit” if a court were taking into account “considerations deducible from the situation of the parties; and the reasonableness, justice, and nature of the thing, for which provision has been made.”

96. Id.
97. Id. at 222 (quoting Frost v. Wenie, 157 U.S. 46, 58 (1895).
98. See Outer Space Treaty, supra note 8, at art. II.
One who attacked the CSLA's general legitimacy in this way could argue that the United States is effectively "appropriating" space through its protection and encouragement of private industry. Such an appropriation would take place not by realizing a "sovereign" right to space property or the uses of space as expressly proscribed in the Outer Space Treaty, but, instead, through the effective use of government power, services, and contracts to encourage and support the rapid development of the private space commerce industry in the United States. In essence, the result of such government encouragement might not amount to wholesale sovereign appropriation, but, at the very least, a kind of sovereign and private space activity that would cast doubt on whether the non-appropriation principle is actually being respected. Therefore, one arguing that such activities were tantamount to sovereign appropriation would highlight the interrelatedness of government and private industry and argue for a broad interpretation of "appropriation" that encompassed the practical effects of such a relationship.

In addition to the regulatory interaction between the CSLA and private space commerce industries, the interrelatedness between government and private industry is clearly illustrated by the interaction between CSLA and the 1972 Liability Convention. Recall that the Outer Space Treaty and its progeny envision a "state-oriented" system of responsibility where each member state is responsible for all actions in outer space undertaken by the state and its nationals. The Liability Convention further binds member states by holding each strictly liable for its actions or the actions of its nationals within outer space and permits only member states to petition for remuneration under the terms of the treaty. In its text, the CSLA cites to such international obligations, while also mitigating the United States' liability under the Liability Convention. The CSLA licensing program ensures overall safety of private space ventures, raises the funds necessary to pay "potential treaty claims through its liability insurance

102. Freeland, supra note 1, at 16.
103. See generally Outer Space Treaty, supra note 8, at art. VI.
104. See Liability Convention, supra note 36, at art. II.

[T]he United States should encourage private sector launches, reentries, and associated services and, only to the extent necessary, regulate those launches, reentries, and services to ensure compliance with international obligations of the United States and to protect the public health and safety, safety of property, and national security and foreign policy interests of the United States.

Id. (emphasis added).
106. Rankin, supra note 78, at 704–05.
107. Id. at 705.
requirement," and limits the United States' joint and several liability exposure through restricting private use of foreign launch and reentry facilities. These provisions effectively allow the United States to pass on the financial cost and recover from their private entities the amount of damages for which they are internationally liable. In this way, the government is limiting its international liability exposure by passing on the cost to the private sector.

When highlighting the further interrelatedness between government and private industry, one could also note that the United States government holds something of a monopoly in launch services and currently requires that decisions regarding commercial space-launch must be approved through the CSLA. In addition, one making this argument would want to highlight the highly interdependent nature of investment flowing from government to private space commerce: in a February 4, 2008 press release, NASA Deputy Administrator Shana Dale justified the agency's 2009 budget request of $17.6 billion by claiming that

"[t]he development of space simply cannot be 'all government all the time[']' . . . . NASA's budget for [fiscal year] 2009 provides $173 million for entrepreneurs—from big companies or small ones—to develop commercial transport capabilities . . . [and] NASA is designating $500 million toward the development of this commercial space capability."

In response to the arguments above, one arguing for the legitimacy of the domestic space commerce industry would note that "appropriation," as it appears in the Outer Space Treaty, should be interpreted narrowly. Under this logic, one would contend that the highly interdependent nature between government and industry is one in which the government has no appropriation rights to space. Instead, the structure between government and private space commerce does not exist to assist the United States in "appropriating" space but instead serves to regulate private space commerce. The argument would cite that government heavily regulates private industry (through its monopoly of the STS launch system) and through permitting legislation (such as the CSLA) and does not realize any

108. Id.
109. Id.
110. Freeland, supra note 1, at 16.
sovereign interest in outer space in the manner expressly proscribed by the "non-appropriation principle." Moreover, one would argue that STS launch contracts are in fact government contracts. Therefore, given that "the Government acts in its commercial or propriety capacity in entering contracts, rather than its sovereign capacity," the government cannot appropriate space in a sovereign capacity merely through its regulation of private commercial space-launch activities.

Faced with these conflicting interpretations, a court reviewing the Outer Space Treaty could examine the history at the time of its signing for clues as to what level of national involvement "appropriation" was intended to cover. Recall that the Outer Space Treaty was signed during the Space Race and was intended to alleviate tensions between space-faring nations. Construing the treaty's introductory text with the history of the treaty's signing, the likely interpretation of the treaty is not a ban on the commercial development of space but, rather, is a declaration of outer space as a demilitarized zone that all nations were free to explore peacefully and scientifically. Under this view, the development of space commerce would not be considered inherently contradictory to the expressed treaty intent of peaceful and scientific space use.

On balance, although there may be some doubt as to whether the United States space law regime is faithful to the spirit of non-appropriation, it does not appear that there is a sufficient conflict between the treaty's intent and the joint-enterprise structure of space commerce, as intimated within the permitting structure of the CSLA, to warrant an express conflict between the two. It is especially unlikely that a reviewing court, given its interpretive preference for harmonizing treaty obligations with congressional acts, would find a conflict in the absence of an express conflict. Therefore, since the language of the CSLA does not expressly conflict with the language of the Outer Space Treaty, it is highly likely that courts would harmoniously interpret the two and legitimate the current and existing joint-venture structure of domestic space commerce. Moreover, even if there were an express conflict between the two, the CSLA would trump the Outer Space Treaty provisions because it was the later enacted of the two.

114. See Manzione, supra note 5, at 513.
115. See Outer Space Treaty, supra note 8 (stating that it "[r]ecognizes the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes" and "desires to contribute to broad international co-operation in the scientific as well as the legal aspects of the exploration and use of outer space for peaceful purposes.")
IV. Towards Appropriation

Even if the United States has found a way to circumvent the "spirit" of its treaty obligations and reap the financial rewards of private space industry, what does the future hold for the non-appropriation principle? Given the existence of alternate space law structures and expanding options for commercially exploiting space, might allowing for sovereign appropriation prove a better alternative? If so, how would the United States go about untangling itself from its treaty obligations? Part IV will explore these questions in turn.

A. Alternate Structures–The Emergence of Quasi-Property Rights

Even though national non-appropriation is the guiding theme of space law, states have successfully implemented an alternate structure within the context of geostationary orbital channels. An orbit roughly 22,400 miles above the Earth that matches the Earth’s 24-hour rotational circuit is called a geostationary orbit ("GEO"). Satellites situated in GEOs around the equator appear to remain in a relatively fixed position at all times because the period of their orbits match the Earth’s rotation around its own axis. Therefore, it is no wonder that GEOs are tremendously valuable to many private entities and national governments.

GEOs are a limited natural resource, restricted by the physical space a satellite requires in orbit and by the need to properly coordinate GEOs so as to avoid radio interference. Currently, the International Telecommunication Union ("ITU"), a specialized agency of the United Nations, is responsible for regulating the radio spectrum and allocating GEO slots to states. Spurred on by pressure from developing countries that a "first-come, first-served" approach to GEO registry would deprive the developing world of any chance to benefit from this limited natural resource, the ITU’s allotment plans were amended to guarantee all states "equitable access" to registry.

117. Id.
118. Brabant, supra note 73, at 114 n.2.
119. See Fountain, supra note 116, at 1765.
120. Id.
121. Id.
122. Freeland, supra note 1, at 14.
There are several implications of registering GEO slots. Most notable is how the ITU registration of a nation’s GEO manifests an express form of sovereign rights over that orbital space. It is not difficult to see how such registration directly challenges the international norm of national non-appropriation. Additionally, one may see how GEO registration could potentially enrich certain nations already endowed with such orbits. In this view, GEOs may then represent an alternate means to achieving the end typically served by the non-appropriation principle: “the exploration and use of outer space . . . shall be carried out for the benefit and in the interests of all countries . . . and shall be the province of all mankind.”\textsuperscript{123} Instead of expressly forbidding states to appropriate space, the ITU acts as an international trustee charged with equitably distributing GEOs.\textsuperscript{124} However, due to the “first-come, first-served” method of allocating orbital slots, developing states still suffer from a greatly inequitable distribution of orbital slots.\textsuperscript{125} Indeed, this issue was brought to the forefront in the 1976 Bogota Declaration in which eight developing states petitioned for the registry of GEOs directly over their territories, arguing that these orbital slots were caused by terrestrial gravity and, thereby, a natural right of the state.\textsuperscript{126} Though the petitioning states lost their case,\textsuperscript{127} the lesson learned may not implicate the failure of “appropriation” as a means of developing space, but, rather, the danger of conjoining a national appropriation model with a “first-come, first-served” method of allocation.

B. Why Appropriation?

Regardless of the dangers posed by such a “first-come, first-served” method of allocating space rights, GEOs exemplify an alternative to the national non-appropriation principle as defined in the Outer Space Treaty. What might be the benefits of such a system, and why would such an administrative international trusteeship be better than the current system of non-appropriation? As other forms of space commerce expand, what would be the benefit from withdrawing from the Outer Space Treaty and the subsequent treaties that followed?

Some commentators have pointed out that the national non-appropriation principle constitutes “an absolute barrier” in realizing

\textsuperscript{123} Outer Space Treaty, \textit{supra} note 8, at art. I.
\textsuperscript{124} See Fountain, \textit{supra} note 116, at 1765.
\textsuperscript{125} Id. at 1766.
\textsuperscript{126} Id. at 1766–67.
\textsuperscript{127} Id. at 1767.
commercial profits from all space activity.\(^{128}\) Such a prediction might prove prophetic when considering the evidence of aggressive future developments within the space commerce industry. A few current projects in development indicate that the nature of space commerce is itself susceptible to change by moving past modern-day industries such as communication satellites and space tourism to other industries requiring a much more permanent presence in space. To name just a handful of projects currently in development for the near future, there are proposed space hotels, orbital laboratories (providing zero-gravity biotech manufacturing), solar satellites (with the potential to convert solar radiation into usable electricity), space elevators (a cheaper form of space launch than conventional rockets premised around raising an elevator car along a cable extending 62,000 miles above Earth), and solar sails (collecting and utilizing solar radiation instead of conventional rocket fuel to propel spaceships and weather satellites).\(^{129}\) Currently, these projects are being developed by a host of both governmental and non-governmental agencies with projected market sizes starting at $350 million.\(^{130}\) Consider also the lucrative mining opportunity offered by 3554 Amun, a small M-class (metal bearing) asteroid that will cross Earth’s orbit in 2020 at a distance closer than the Moon.\(^{131}\) In U.S. dollars, the asteroid contains, approximately, iron and nickel worth $8 trillion, cobalt worth $6 trillion, and platinum-like metals worth $6 trillion.\(^{132}\)

In light of these slated projects, consider then the future of space commerce and whether national non-appropriation makes sense. For example, space tourism and space advertising will certainly require some intellectual property protection of trademark in outer space.\(^{133}\) An owner who had devoted vast amounts of time, capital, and resources towards developing a space hotel, laboratory, or space station, would likely want to be afforded the highest degree of legal rights, including patent and

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128. Freeland, supra note 1, at 12.
130. Id. (Indeed, NASA’s projected 2020 return to the Moon is expected to generate $104 billion in NASA contracts by 2018. By 2050, the market size for lunar helium mining is estimated at $250 billion. By 2030, efforts to land humans on Mars are expected to generate for the U.S. $400 billion in NASA contracts.).
132. Id.
133. See Freeland, supra note 1, at 13.
intellectual property rights. Tangible property rights would also be important to these owners. Presumably, owners would want to secure a vested leasehold or the like in their property. The problem here is that without the ability of a sovereign to claim the land, it is impossible for any nation to assert jurisdiction over the property, whether to make or enforce its laws, or to resolve simple questions as to title.

As these new commercial ventures emerge, it is likely that non-appropriation will have to be reconciled with the need to protect some fundamental property rights to space commerce objects and ventures. One option could be the creation of an international trusteeship, much like the ITU, that would be charged to administer certain property rights and resolve disputes. However, the other more immediate option available to the United States would be to withdraw from the Outer Space Treaty altogether and assert its sovereignty in space.

C. Treaty Withdrawal

If the United States truly wanted to afford private space commerce the utmost protection, it would withdraw from the treaties entirely. But treaty withdrawal is itself an unclear constitutional issue. As discussed earlier, one effective means of withdrawing from a treaty is for Congress to pass subsequent legislation that is expressly inconsistent with the treaty obligations. The concern here is that if such an act was not accurately drafted, it would be subject to a presumption that Congress does not intend to violate the law of nations and the principle that treaties and congressional acts are subject to conciliatory judicial interpretation.

Perhaps the more expedient option available would require the United States to withdraw altogether from the Outer Space Treaty and its progeny. Though more direct than the former solution, treaty withdrawal implicates an area of law that is less clear. This is because even though the Constitution provides that the president can make a treaty and the Senate can ratify it with a supermajority vote, nowhere in the Constitution's text does it articulate exactly how the United States may withdraw from treaty obligations.

Without the Constitution to guide Supreme Court jurisprudence, the Court has only addressed the issue once in the case of Goldwater v.

134. Id.
135. Id.
136. Id.
137. U.S. CONST. art. II, § 2, cl. 2.
There, members of Congress led by Senator Barry Goldwater initially filed for injunctive and declaratory relief against notice given by President Jimmy Carter that he would unilaterally terminate the 1954 Mutual Defense Treaty between the United States and Taiwan. Specifically, the plaintiffs claimed that the president could not unilaterally withdraw from the treaty “without the advice and consent of the Senate or the approval of both houses of Congress.” After the district court held for the plaintiffs, the court of appeals reversed, citing that the president abided by the termination clause in the treaty and, thereby, was permitted to solely withdraw the United States from the treaty without the advice and consent of the United States Senate. Had this theory proved persuasive on appeal, the president would clearly possess the ability to terminate United States space obligations under the termination clauses contained in Outer Space Treaty and each of its progeny. Instead, the Supreme Court vacated the court of appeals judgment and remanded to the district court with directions to dismiss the complaint.

What the Supreme Court did not provide was a unified opinion of law on whether the president could unilaterally withdraw the United States from its treaty obligations. Though a majority of six justices ruled that the case should be dismissed without hearing oral arguments, Justice White and Justice Blackman would have heard oral arguments and given plenary consideration, and Justice Brennan would have affirmed the ruling of the court of appeals. Within the majority, Justice Powell and Justice Rehnquist proffered distinct reasons for dismissing the complaint.

Justice Powell wrote that the question was not ripe for judicial review because Congress had not asserted its constitutional authority against the president’s unilateral termination of the treaty. “The Judicial Branch,” he wrote, “should not decide issues affecting the allocation of power between the president and Congress until the political branches reach a constitutional impasse.” To do otherwise, he concluded, would encourage “small groups or even individual Members of Congress” to seek

140. Id.
142. Goldwater, 444 U.S. at 996.
143. Id. at 996–97.
144. Id. at 997.
145. Id.
judicial resolutions before the political process had the opportunity to resolve the conflict.\textsuperscript{146}

Where Justice Powell saw a role for the judiciary to intervene at a specific time of inter-branch deadlock, Justice Rehnquist saw no role for the judiciary in these types of conflicts. Justice Rehnquist found the question before the Court was "political" and, therefore, nonjusticiable because "it [involved] the authority of the President in the conduct of our country's foreign relations and the extent to which the Senate or the Congress is authorized to negate the action of the President."\textsuperscript{147} In Justice's Rehnquist's view, the absence of a controlling constitutional provision governing treaty withdrawal was significant: "In light of the absence of any constitutional provision governing the termination of a treaty, and the fact that different termination procedures may be appropriate for different treaties... the instant case in my view also 'must surely be controlled by political standards.'\textsuperscript{148}

Generally, "[W]hen a fragmented Court decides a case and no single rationale explaining the result enjoys the assent of five Justices, the holding of the Court may be viewed as that position taken by those members who concurred in the judgments on the narrowest grounds."\textsuperscript{149} However, in \textit{Kucinich v. Bush}, the D.C. Circuit determined that no such narrow concurrence existed between Justice Powell's and Justice Rehnquist's opinion.\textsuperscript{150} In the \textit{Kucinich} case, thirty-two members of the House of Representatives brought suit challenging President Bush's unilateral withdrawal from the 1972 Anti-Ballistic Missile Treaty ("ABM").\textsuperscript{151} The court dismissed the case as a nonjusticiable political question, citing Rehnquist's \textit{Goldwater} opinion and its concern for respecting the authority of the president to conduct the country's foreign relations.\textsuperscript{152} In support of its holding, the district court cited \textit{Made in the USA Foundation v. United States},\textsuperscript{153} an Eleventh Circuit decision where, in dismissing a treaty claim for nonjusticiability, that court preferentially cited Justice Rehnquist's opinion as "instructive and compelling."\textsuperscript{154} The D.C. District Court also supported its dismissal for nonjusticiability by noting a similar holding in

\begin{itemize}
\item \textsuperscript{146} Id.
\item \textsuperscript{147} Id. at 1002.
\item \textsuperscript{148} Id. at 1003.
\item \textsuperscript{149} Marks v. United States, 430 U.S. 188, 193 (1977).
\item \textsuperscript{150} Kucinich v. Bush, 236 F. Supp. 2d 1, 14–15 (D.C. Cir. 2002).
\item \textsuperscript{151} Id. at 2.
\item \textsuperscript{152} Id. at 15–16.
\item \textsuperscript{153} Made in U.S.A. Found. v. United States, 242 F.3d 1300, 1315 (11th Cir. 2001).
\item \textsuperscript{154} Bush, 236 F.Supp. at 15.
\end{itemize}
another treaty interpretation case, *Beacon Products Corp. v. Reagan.*\(^{155}\) There the court found that a constitutional challenge to President Reagan's unilateral termination—without congressional consent—of the Treaty of Friendship, Commerce, and Navigation with Nicaragua raised a nonjusticiable political question.\(^{156}\)

While not having a unified Supreme Court precedent on the matter of treaty withdrawal, it does appear that at least a few federal circuits have affirmed that the executive may unilaterally extricate the United States from its international treaty obligations without the advice and consent of the Senate or Congress. In the space law context then, it seems possible that the president could unilaterally withdraw from the Outer Space Treaty and its progeny without transgressing his constitutional boundaries. If that is the case, the pertinent question then becomes, what evidence do we have of such an executive intent?

At the time of this writing it is unclear what objectives President Barack H. Obama intends to accomplish within the space commerce industry. The Bush Administration's rather assertive agenda for its future space policy might presage the industry climate for future space development. In the United States 2006 National Space Policy Announcement, the Bush administration framed American use of space as essential to the United States' interests, explicitly rejecting assertions of national sovereignty hostile to those of the United States and encouraging private enterprise.\(^{157}\) Though the general hawkish tenor of the announcement surprised many commentators,\(^{158}\) one passage might prove prophetic for future United States space policy. In that passage, the executive asserted that the United States would preserve

its rights, capabilities, and freedom of action in space; dissuade or deter others from either impeding those rights or developing capabilities intended to do so; take those actions necessary to protect its space capabilities; respond to interference; and deny, if necessary, adversaries the use of space capabilities hostile to U.S. national interests.\(^{159}\)

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156. *Id.* at 1198–99.
159. *Id.*
Conclusion

On its face, the national non-appropriation principle outlined in the Outer Space Treaty and its progeny would seem to hamstring the ability of state or private actors to commercially develop space. Yet, since 2000, worldwide government spending on space endeavors has reached approximately $50 billion, indicating a 25 percent increase in spending.\textsuperscript{160} In spite of this increase in investment, private industry has continued to bankroll the vast majority of space investment in recent years.\textsuperscript{161}

If this trend continues on into the future, current international treaty obligations will likely prove inadequate to address future space commerce realities. It may be the case that the United States has already circumvented its international obligations to not appropriate space. But even if the United States has maintained its treaty obligations until now, future space commerce opportunities will almost inevitably demand stronger assertions of national sovereignty to protect distinct forms of property rights in space.

Asserting such national sovereignty could occur through the passage of domestic legislation that is expressly inconsistent with United States treaty obligations. The problem with this approach is that unless such legislation is carefully and clearly drafted, it seems highly likely that the judiciary would interpret such legislation as consistent with United States treaty obligations. The more insidious problem with this approach is that it may permit the United States to facially maintain its international treaty obligations even while the government continues encouraging and working with private industry to circumvent the spirit and goals of the Outer Space Treaty and its progeny.

Recognizing that non-appropriation may not prove a desirable or realistic theme to guide future space commerce, the United States should consider withdrawing entirely from its international treaty obligations. Although no clear constitutional mandate dictates which branch of government is responsible for treaty withdrawal, it is likely that the executive could withdraw the United States from its treaty obligations without judicial reprisal. This approach would allow the United States to continue to grant private businesses the greatest governmental protections for their commercial ventures in space and, consequently, incentivize the rapid development of various future space commerce activities.


\textsuperscript{161} See Taylor, supra note 131.