VOLUME 6 July 2025 ISSUE 2

JOURNAL ON EMERGING TECHNOLOGIES

NOTES

THE DOCTRINE OF DISCOVERY AND THE FINAL FRONTIER

NIKOLAS WALLS

The Doctrine of Discovery and the Final Frontier

NIKOLAS WALLS

INTRODUCTION

Property disputes are as old as civilization. Some of the earliest written laws concern remedies for the misuse of another's property.[1] For most of our species' history, these questions over property ownership have been confined to our home planet, Earth. However, this is poised to change.

Space commerce and exploration threaten to resurrect problematic legal principles guiding property ownership, specifically the Doctrine of Discovery, one of the earliest examples of international law.[2] The Doctrine managed inter- and intra-European colonial affairs for nearly half a millennium. Scholarly discussion of it has largely focused on relations between Indigenous peoples and nations that employed the Doctrine.[3] Yet, as entrepreneurs and nations inch closer to economically feasible space travel and commercialization, the Doctrine has resurfaced as a potential legal justification for territorial claims in space.

This Note traces the Doctrine's origins, examines its potential application in space, and argues that the United States should reconsider its international commitments if the existing legal regime remains unfit for space activities. The growing viability of commercial space ventures makes this an opportune moment to examine the Doctrine's potential application. First, I will explore the history of the Doctrine, tracing its development from papal bulls in the 15th century to its entrenchment in

---

[1] MARTHA T. ROTH, LAW COLLECTIONS FROM MESOPOTAMIA AND ASIA MINOR 20 (Piotr Michalowski eds., 2d ed. 1997) (Writings from the Ancient World, vol. 6) ("If a man violates the rights of another and cultivates the field of another man, and he sues (to secure the right to harvest the crop, claiming that) he (the owner) neglected (the field)–that man shall forfeit his expenses.").

[2] ROBERT J. MILLER ET AL., THE DOCTRINE OF DISCOVERY, IN DISCOVERING INDIGENOUS LANDS: THE DOCTRINE OF DISCOVERY IN THE ENGLISH COLONIES 9 (Oxford Univ. Press 2010); *see also* Robert J. Miller & Olivia Stitz, *The International Law of Colonialism in East Africa: Germany, England, and the Doctrine of Discovery*, 32 DUKE J. COMPAR. & INT'L L. 1, 9 (2021).

[3] *See, e.g.*, MARK CHARLES & SOONG-CHAN RAH, UNSETTLING TRUTHS: THE ONGOING, DEHUMANIZING LEGACY OF THE DOCTRINE OF DISCOVERY (2019); Robert J. Miller & Harry Hobbs, *Unraveling the International Law of Colonialism: Lessons From Australia and the United States*, 28 MICH. J. RACE & L. 271 (2023).

early American law. Next, I will provide an overview of modern space law, focusing on the Outer Space Treaty, related international agreements, and selected case materials. Third, I will examine how the United States could invoke the Doctrine to support claims of territorial ownership in space. Finally, I will propose solutions for the future use of the Doctrine in space and argue that the United States should withdraw from international agreements if the current legal regime remains unchanged.

I. A SELECTED HISTORY ON THE DOCTRINE OF DISCOVERY

The Doctrine of Discovery has roots in the Roman Catholic tradition.[4] Its ideological origins can be found as early as the fifth century A.D. when the Church embraced the view of a "worldwide papal jurisdiction that placed responsibility on [it] to work for a universal Christian commonwealth."[5] In the ironically named 'Age of Discovery,' this notion would offer European powers a powerful justification for extending their influence across the globe.

For our purposes, the manifestation of the Doctrine is best examined in the 15th-century Portuguese and Spanish colonial efforts. These colonial ventures are considered the birthplace of the modern Doctrine of Discovery.[6] The expansion of the Iberian powers offered popes an opportunity to adjudicate the expansion of Catholic powers, primarily because these were in areas without Christian native inhabitants.[7] In a series of papal bulls, the papacy extended the dominion and sovereignty rights of Catholic powers over lands inhabited by non-Christians. Specifically, these bulls allowed Europeans "to accumulate wealth by engaging in unlimited resource extraction, particularly mining, within the traditional territories of Indigenous nations and peoples."[8] These were granted in exchange for a spiritual concession—the conversion of the native peoples to Catholicism.[9]

One such bull, the *Romanus Pontifex*, promulgated first in 1436 and reissued several times over the century, provided the Portuguese an exclusive grant of sovereignty over the native peoples and the land they

---

[4] Miller et al., *supra* note 2, at 9.
[5] *Id.*
[6] *Id.* at 10–12. *See also Preliminary Study of the Impact on Indigenous Peoples of the International Legal Construct Known as the Doctrine of Discovery*, at 5–12, U.N. Doc. E/C.19/2010/13 (Feb. 4, 2010).
[7] Miller et al., *supra* note 2, at 10.
[8] *Preliminary Study*, *supra* note 6, at 6.
[9] *Id.* at 7; Miller et al., *supra* note 2, at 11.

occupied.[10] These papal bulls enumerated the general proposition that the discovery of land by a 'Christian' power conferred the exclusive right of ownership.[11] Papal proclamations of ownership were secured by the threat of excommunication for violations.[12] This threat swayed European colonial policy in pre-Reformation Europe. For instance, following the issuance of a papal bull, the Spanish aimed to avoid excommunication and directed their colonial efforts beyond the papal grants given to the Portuguese.[13]

As the territories granted to these nations expanded, so did the potential for territorial disputes, and the Pope mediated these competing interests. In 1493, Pope Alexander VI issued the papal bull, *Inter caetera,* granting Spain ownership of the islands 'discovered' by Columbus and dividing the Americas between Spain and Portugal.[14] Notably, the Bull was careful to limit its grant to lands not already claimed by Christians in the Americas and forcefully reminded other nations that actions violating the Bull were under threat of excommunication.[15] The *Inter caetera* and its successors would be ratified, with slight modifications, by Spain and Portugal in the Treaty of Tordesillas.[16]

To summarize, the earliest form of the modern Doctrine of Discovery was interpreted to mean that lands unclaimed by other European nations were open to conquest. However, as successive powers entered the colonial gambit, fraud and theft of land rose, as fake discovery would complicate colonial rights—for example, the English, in one instance, erased Spanish markers of ownership in the Pacific to justify their colonization of the area. [17] The effectiveness of these underhanded tactics resulted in the development that "required that a European country had to actually occupy and possess non-Christian lands to perfect their Discovery title to discovered lands."[18] This was

---

[10] *Id*; *Romanus Pontifex*, available at https://www.nativeweb.org/pages/legal/indig-romanus-pontifex.html (last visited Feb. 5, 2025).
[11] *See* Charles & Rah, *supra* note 3 at 16; Miller et al., *supra* note 2 at 11. The Vatican has now denounced the Romanus Pontifex and similar papal bulls that justified colonialism: Bill Chappell, *The Vatican Repudiates 'Doctrine of Discovery,' Which Was Used to Justify Colonialism*, NPR (Mar. 30, 2023).
[12] Miller et al., *supra* note 2 at 11.
[13] *Id.*
[14] *Inter Caetera* (May 4, 1493), available at https://www.papalencyclicals.net/alex06/alex06inter.htm (last visited Feb. 1, 2025).
[15] *Id.*
[16] *See* Miller et al., *supra* note 2 at 12; Treaty between Spain and Portugal concluded at Tordesillas, June 7, 1494, The Gilder Lehrman Institute of American History (2012), https://www.gilderlehrman.org/sites/default/files/inline-pdfs/Treaty%20of%20Tordesillas.pdf.
[17] *See* Miller et al., *supra* note 2, at 18–20.
[18] *Id.* at 18.

followed by the *terra nullius* requirement, an English addition to the Doctrine.[19] This evolution maintained that land held by non-European inhabitants was available for colonization, regardless of whether it had been previously discovered.[20]

These developments to the Doctrine effectively channeled European colonization into a finders-keepers and settler race. The urgency to establish colonial claims led to disputes about which nation first occupied the land and, consequently, the scope of claims granted by settlement.[21] Ironically, the rights of the original occupants of the land, the Indigenous peoples, were an afterthought.

These developments coincided with the Protestant Reformation in 1517. Surprisingly, the hypersensitive religious focus of the era's diplomacy produced a pan-European consensus on colonial policy, as even Protestant nations were careful to comply, as closely as possible, with papal grants, which offered opportunities for international recognition of sovereignty over claimed lands.[22]

Developments in the Doctrine of Discovery were not adopted universally.[23] As discussed above, Spain and Portugal incorporated papal grants as the basis for their rights to discovered lands. Yet, England and France maintained that occupancy and possession were the only guarantees of a nation's ownership rights.[24] These conflicting theories produced a market of national solipsism, where if the Doctrine's definition offered the most benefits in a given situation, it was accepted.[25] Ultimately, the disputes over land ownership led to violent conflicts between European powers.[26] As colonial efforts matured and norms were standardized, the Doctrine evolved into a pan-European international law.[27] Under this cultural and historical legacy, the United States adopted

---

[19] *Id.* at 21.
[20] *Id.*
[21] *Id.* at 19.
[22] *Id.* at 18 ("[Elizabeth I] wanted … England's Discovery claims in foreign lands to be recognized and respected by the international community of nations, so she… decided to comply with international law as far as possible.").
[23] *Id.* at 13–19.
[24] *Id.* at 19.
[25] *See* Miller & Hobbs, *supra* note 3, at 284–85.
[26] For a limited encyclopedia list of colonial wars, see Alan Gallay (Ed.), *Colonial Wars of North America, 1512–1763: An Encyclopedia* (1996); *See also* Jake Althouse, *A Historical Analysis of the Causes of the French and Indian War* (2021). Honors Theses, University of Nebraska-Lincoln 337.
[27] *See* State v. Foreman, 16 Tenn. (8 Yer.) 256, 277 (1835) ("We maintain that the principle declared in the fifteenth century as the law of Christendom—that discovery

the Doctrine of Discovery.[28]

A. The United States and The Doctrine of Discovery

The Doctrine of Discovery in the United States emerged in an international context of colonialism and expansion. The Doctrine established a set of legal norms and guidelines for how European nations were to conduct themselves when acquiring colonial territories.[29] It is regarded as one of the earliest examples of international law.[30] These seeds of thinking infected the intellectual foundations of international law as, in 1917, Thomas Holland referred to international law as obligations between states of "modern Christendom."[31]

The Doctrine's religious, Eurocentric, and international principles influenced its adoption and implementation by the United States.[32] In 1823, the United States Supreme Court in the landmark case *Johnson v M'Intosh* addressed the question of Discovery.[33] In *M'Intosh,* Indian tribes sold land to private citizens before American Independence and later sold the same land to the federal government. The question before the Court was whether the sale to the private individuals conferred ownership rights over the land.[34] The Court held that "discovery gave an exclusive right to extinguish the Indian title of occupancy, either by purchase or by conquest; and gave…title to the government by whose subjects, or by whose authority, it was made, against all other European governments, which title might be consummated by possession."[35] The Court went further to note that questions of title between European

---

gave title to assume sovereignty over, and to govern, the unconverted natives of Africa, Asia, and North and South America—has been recognized as a part of the national law for nearly four centuries, and that it is now so recognized by every [C]hristian power, in its political department and in its judicial.").

[28] *Id.* at 271.

[29] *See* Charles & Rah, *supra* note 3, at 22.

[30] *See* Miller et al., *supra* note 2, at 9; *See also* THOMAS ERSKINE HOLLAND, STUDIES IN INTERNATIONAL LAW (Oxford: Clarendon Press, 1898).

[31] THOMAS ERSKINE HOLLAND, THE ELEMENTS OF JURISPRUDENCE 389 (4th ed. 1917).

[32] *Preliminary Study*, *supra* note 6, at 14–15 (explaining that Joseph Story connected the United States' right of Discovery and papal grants of domination to the Portuguese and Spanish in his *Commentaries on the Constitution of the United States* (1833)).

[33] Johnson v. M'Intosh, 21 U.S. 543 (1823). One of the justices in the case, Justice Joseph Story, noted in *Commentaries on the Constitution of the United States* Indians were "infidels, heathen, and savages," and that they "were not allowed to possess the prerogatives belonging to absolute, sovereign, and independent nations." STORY, COMMENTARIES 102 (4th ed. 1873).

[34] *M'Intosh*, 21 U.S. at 562.

[35] *Id.* at 573, 587.

nations could be settled by conquest.[36] The Court noted ten elements of perfecting a Discovery claim,[37] four of which are pertinent to the topic of this Note:

> 1. First discovery. The first Euro-American country that discovered lands unknown to other Euro-Americans claimed property, commercial, and sovereign rights over the lands…
> 2. Actual occupancy and possession. This element … required that for a Euro-American nation to turn a first discovery into full ownership recognized by other countries, a discovering country had to actually occupy and possess the lands it claimed. Occupancy was usually established by building forts or settlements…
> 3. Contiguity. Euro-Americans always claimed significant amounts of land contiguous to their actual discoveries and colonial settlements…
> 4. Terra nullius. This Latin phrase means a land that is vacant or empty. Under this element, if lands were not occupied by any person or nation, they were available for Euro-American claims…[38]

These factors offered European nations and the young American Republic a form of 'carte blanche' to expand and displace native peoples who were not under the influence of other European powers.[39] Today, the Doctrine remains a valid part of American law and represents the backbone of modern federal Indian law. [40] The Doctrine's external emphasis underscores its international and foreign policy character, which, as this Note will illustrate, will mirror future space exploration and colonization.[41]

B. Expansion and Manifest Destiny

The expansion of the United States can be categorized into two distinct methods of implementing Discovery: (1) commissioned expansion and (2) private settlement and enterprise.

---

[36] *Id.* at 588, 590.
[37] Miller & Hobbs, *supra* note 3, at 281 (2023) (citing ROBERT J. MILLER, NATIVE AMERICA, DISCOVERED AND CONQUERED: THOMAS JEFFERSON, LEWIS & CLARK, AND MANIFEST DESTINY 3–5 (2006)).
[38] *See* Miller & Hobbs, *supra* note 3, at 281–84 (internal citations omitted).
[39] *See* Miller et al., *supra* note 2, at 82–85.
[40] *Id.* at 87. *See, e.g.*, Pueblo of Jemez v. United States, 790 F.3d 1143 (10th Cir. 2015).
[41] *See also*, Felix S. Cohen, *Original Indian Title,* 32 Minn. L. Rev. 28, 43 (1947) (claiming "dealings between the Federal Government and the Indian Tribes have regularly been handled as part of our international relations.").

Commissioned discovery was not unique to the United States, as Chief Justice John Marshall noted in *M'Intosh*: "[England] granted a commission to the Cabots, to discover countries then unknown to Christian people," and "[t]o this discovery the English trace their title."[42] America's venture into commissioned discovery is best exemplified by President Thomas Jefferson's purchase of the Louisiana Territory from Napoleon Bonaparte and the French in 1803.[43] The United States commissioned the Lewis and Clark expedition to secure the discovery rights to the territories purchased in the agreement.[44] The expedition performed 'rituals of discovery' across the territory, leaving their names and informing the native tribes that the United States had acquired the territory.[45] These included 'tokens' of sovereignty such as medals, flags, and uniforms to represent ownership for other would-be European claimants to the land.[46] The expedition succeeded in establishing a direct claim to areas in the purchase and territories beyond, as "[the United States'] claim to the Pacific Northwest" is linked to the Lewis and Clark expedition.[47]

The next method of invoking a Discovery claim was private settlement and enterprise. I will discuss two short examples to highlight parallels that will be pertinent later in our discussion of space-related issues.

The first is the settlement of the Oregon Territory. In 1838, Oregon settlers petitioned the United States for recognition as a territory and for it to press its sovereignty claims over the region.[48] The settlers' primary motivation was British encroachment in the area.[49] In response, President James Monroe initiated diplomatic negotiations with the British regarding the border of the United States and British territories, eventually settling on the 49th parallel.[50] The primary justification for federal intervention was the private American settlement of areas outside the United States' nominal control.[51]

This same formula of private petitioners seeking recognition would be employed in the infamous annexation of Hawaii. In the late 18th

---

[42] *M'Intosh*, 21 U.S. at 576.
[43] Louisiana Purchase Treaty, U.S.-Fr., Apr. 30, 1803, 8 Stat. 200.
[44] *See* Miller et al., *supra* note 2, at 69.
[45] *Id.* at 70.
[46] *Id.*
[47] F.G. Young, *The Lewis and Clark Expedition in American History*, 2 Q. OR. HIST. SOC'Y 410, 415 (1901).
[48] William L. Lang, *Petitions to Congress, 1838-1845* (1838-1845).
[49] Miller et al., *supra* note 2, at 76.
[50] *Id.* at 84.
[51] *Id.*

century, the British government secretly instructed Captain James Cook to explore the Pacific and claim territories for Great Britain.[52] During this mission, the captain 'discovered' Hawaii in 1788.[53] Following European discovery, the House of Kamehameha united the various Hawaiian Islands into a single kingdom.[54] The importance of the Kingdom of Hawaii rested in its commercial ties and geographic location.[55] The lucrative American fur, sandalwood, and sugar trade offered the islands a unique opportunity to serve as a trading post.[56] The arrival of American missionaries and nationals thrust Hawaii into the sphere of influence of the United States.[57]

Under the Doctrine of Discovery, the United States' claims to the islands started with the initial presence of American occupants and commercial interests. The United States was not alone in its bid to secure the rights to the islands; the Russians had failed in 1815, and the British were also interested in acquiring them.[58] The competing interests of several European powers in the islands added complexity but not flavor to the Doctrine's implementation. In 1893, Samuel Dole, an American, led the overthrow of the Hawaiian monarchy.[59] Dole created a provisional government and proclaimed it would exist until the government could join the United States.[60] Subsequently, Dole would petition the United States for annexation.[61] Initially, these attempts were rebuffed by President Grover Cleveland;[62] however, President McKinley signed into law the annexation of Hawaii in 1897.[63]

These examples are illustrative because they highlight that commercial and private interests incentivized and facilitated claims of Discovery. This reality provides a foreboding warning to the future of space exploration and colonization. The question for today's observers is whether national governments will face similar pressures to extend

---

[52] J. Holland Rose, *Captain Cook and the Founding of British Power in the Pacific*, 73 GEOGRAPHICAL J. 102, 106-07 (1929), https://doi.org/10.2307/1783522 (last visited Jan. 5, 2025).
[53] RALPH S. KUYKENDALL, A HISTORY OF HAWAII 54 (1938), https://archive.org/details/historyofhawaii0000ralp/page/284/mode/2up.
[54] *Id.* at 62.
[55] *Id.*
[56] *Id.* at 70–71.
[57] *Id.* at 103.
[58] *Id.* at 96, 119.
[59] *Id.* at 278.
[60] *Id.*
[61] *Id.*
[62] U.S. Dep't of State, *Annexation of Hawaii, 1898*, https://2001-2009.state.gov/r/pa/ho/time/gp/17661.htm (last visited Feb. 9, 2025).
[63] Kuykendall, *supra* note 53,at 285.

claims of sovereignty to space territory.

II. SPACE AND THE DOCTRINE OF DISCOVERY

A. The Outer Space Treaty (OST) of 1967

The cornerstone of the United States' space policy is its commitment to the Outer Space Treaty (OST) of 1967, which guaranteed the "basic freedom [of mankind] to explore and use outer space."[64] Adopted during the height of the Cold War, the treaty was primarily designed to prevent the escalation of hostilities into space between the United States and the USSR.[65] As of June 2024, the OST has 115 state parties, with twenty-three signatory countries yet to ratify.[66]

Importantly for this Note, Article II of the treaty states, "[o]uter space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."[67] This prohibition on sovereignty does not extend to the sovereign's jurisdiction over its space objects and people, as Article VIII of the OST provides that "[a] State Party to the Treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body."[68]

The official interpretation of the United States is that while states are prohibited from claiming ownership over space territory, it is silent on individuals' rights to stake private claims to celestial resources.[69] This creates an opportunity for private property interests in space.

---

[64] Lt. Col. Walter D. Reed, *The Outer Space Treaty: Freedoms – Prohibitions – Duties*, 9 A.F. L. Rev. 26, 28 (1967).
[65] Todd Skauge, *Space Mining & Exploration: Facing a Pivotal Moment*, 45 J. CORP. L. 101, 104 (2020).
[66] Arms Control Association, *The Outer Space Treaty at a Glance*, https://www.armscontrol.org/factsheets/outer-space-treaty-glance (last visited Feb. 5, 2025).
[67] *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies*, U.S.-U.S.S.R., Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205 (entered into force Oct. 10, 1967) [hereinafter *OST*].
[68] *Id.* at art. VIII. Further, governments that are the origin of private space-faring entities are ultimately liable and subject those entities to regulation. *See* Convention on International Liability for Damage Caused by Space Objects (1972), art. IV, 24 UST 2389, 2393 (1973).
[69] *Spurring Private Aerospace Competitiveness and Entrepreneurship Act,* Pub. L. No. 114-90, 129 Stat. 704 (2015). *Cf.* Kurt Taylor, Fictions of the Final Frontier: *Why the United States SPACE Act of 2015 Is Illegal*, 33 EMORY INT'L L. REV. 653 (2019) (examines interpretive modes to determine the treaty's actual meaning).

As the most widely adopted international agreement on space,[70] this treaty remains the most influential international agreement on space exploration and commerce.[71]

B. The Moon Treaty of 1979

The Moon Treaty was the final international agreement in the first series of space treaties.[72] Adopted during the Cold War, the treaty continued efforts to embody the OST's principles of non-militarization and prohibition of national appropriation in space.[73] However, the treaty controversially prohibited ownership of space resources and declared that the Moon and other celestial bodies were "the common heritage of mankind," a proposition seen as "a road to the socialization of the Moon."[74]

The prohibition of private appropriation of space resources was not limited to lunar territory, as the treaty provided that "[t]he provisions of this Agreement relating to the moon shall also apply to other celestial bodies within the solar system"[75] The sweeping prohibitions on private actors proved too extreme for the United States, which refused to sign the treaty.[76] As of 2024, it has 24 ratifiers, none of which are major space-faring nations.[77]

C. The SPACE Act

---

[70] Lawrence J. L. J. et al., *Planetary Science*, in *Oxford Research Encyclopedia of Planetary Science* (last visited Feb. 5, 2025).
[71] *Cf., e.g.*, Ferdinand Onwe Agama, *Effects of the Bogota Declaration on the Legal Status of Geostationary Orbit in International Space Law*, 8 NNAMDI AZIKIWE U. J. INT'L L. & JURIS. 24 (2017) (discussing the Bogota Declaration as an attempt to assert national claims over geostationary orbit in contrast to the OST's broad international acceptance).
[72] Timothy G. Nelson, *The Moon Agreement and Private Enterprise: Lessons in Investment Law*, 17 ILSA J. INT'L & COMPAR. L. 393, 394 (2011).
[73] *Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*, art. 3, 11(2), Dec. 5, 1979, 1363 U.N.T.S. 3 [hereinafter *Moon Treaty*].
[74] Nelson, *supra* note 72 (internal quotations omitted), at 396; *See also* L5 News, *UN Moon Treaty Falling to U.S. Opposition Groups*, NAT'L SPACE SOC'Y (Mar. 1982), https://nss.org/l5-news-un-moon-treaty-falling-to-us-opposition-groups/ (discussing U.S. opposition to the Moon Treaty because "private industry would be prohibited from developing outer space.").
[75] *Moon Treaty* at art. 1.
[76] Nelson, *supra* note 72, at 402.
[77] Nelson, *supra* note 72, at n.43; *See also* United Nations, *Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*, 1363 U.N.T.S. (1979), https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XXIV-2&chapter=24&clang=_en. (listing the current signatories and state parties to the treaty).

In 2015, the United States adopted its national policy on the private exploitation and exploration of space, The Spurring Private Aerospace Competitiveness and Entrepreneurship Act (SPACE Act).[78] The SPACE Act, careful not to explicitly violate the OST, does not purport to give the United States sovereignty rights over celestial bodies and explicitly acknowledges the limitations imposed by international agreements.[79] The final section of the Act states that:

> A United States citizen engaged in commercial recovery of an asteroid resource or a space resource under this chapter shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell the asteroid resource or space resource obtained in accordance with applicable law, including the international obligations of the United States.[80]

The Act goes on to say that "[i]t is the sense of Congress that by enactment of this Act, the United States does not thereby assert sovereignty or sovereign or exclusive rights or jurisdiction over, or ownership of, any celestial body."[81] The general principles of the SPACE Act were further reinforced in 2020 when President Trump issued an Executive Order titled "Encouraging International Support for the Recovery and Use of Space Resources." This order echoed the sentiments of the SPACE Act, clearly stating that space should not be considered communal property.[82]

Critics have pointed out that the SPACE Act could violate the OST of 1967.[83] By allowing private citizens to claim space resources and engage in space businesses, United States courts would be forced to adjudicate disputes.[84] By doing so, the United States would be exerting sovereignty over areas in space.[85] Notwithstanding these criticisms, the United States has not changed its official interpretation.

---

[78] *Spurring Private Aerospace Competitiveness and Entrepreneurship Act*, Pub. L. No. 114-19, 129 Stat. 704 (2015) [hereinafter *SPACE Act*].
[79] *Id.*; *See also* Morgan M. DePagter, *"Who Dares, Wins:" How Property Rights in Space Could Be Dictated by the Countries Willing to Make the First Move*, CJIL Online 1.2 116, 122 (2022) (examining how domestic legislation over property rights in space is not limited to the United States. Luxembourg, the United Arab Emirates, and Japan have all passed similar legislation.).
[80] *SPACE Act*, § 402, 129 Stat. 721.
[81] *Id.* § 403, 129 Stat. 722.
[82] *See* Exec. Order No. 13914, 85 Fed. Reg. 20381 (Apr. 6, 2020).
[83] *See, e.g.*, Taylor, *supra* note 69, at 653.
[84] *SPACE Act*, § 403, 129 Stat. 704.
[85] Taylor, *supra* note 69, at 677.

D. Artemis Accords

The Artemis Accords, signed in 2020, are non-binding principles for space exploration and commercialization.[86] The Accords reiterate the stance that space resources can be exploited but carefully disclaim that the OST remains the principal guide for acceptable forms of space activity. For example, regarding resource extraction, a U.S. State Department fact sheet explains:

> The ability to extract and utilize resources on the Moon, Mars, comets, and asteroids will be critical to support safe and sustainable space exploration and development. Space resource extraction and utilization under the Artemis Program will be conducted in compliance with the Outer Space Treaty.[87]

As of January 2025, there are 53 signatories to the Artemis Accords. While the Accords are non-binding, there has been some debate as to whether they facially violate the OST, with its call to establish a permanent settlement on the Moon.[88]

The international reception of the Accords remains mixed. China and Russia have criticized them as an attempt by the United States to exert its influence and policy perspectives over space resources.[89] They may not be wrong, as Walker Smith, a former J.D. candidate at SMU, notes in his comment that the Accords could help establish internationally binding customs for space activities.[90] Together, the OST, the SPACE Act, and the Artemis Accords form a fragile legal architecture that will struggle to withstand the growing pressures of space commercialization.

E. Litigation of Space Property

---

[86] U.S. Dep't of State, *Artemis Accords*, BUREAU OCEANS & INT'L ENV'T. & SCI. AFFS., https://www.state.gov/bureau-of-oceans-and-international-environmental-and-scientific-affairs/artemis-accords (last visited Feb. 7, 2025).
[87] U.S. Embassy & Consulates in Brazil, *Fact Sheet: Artemis Accords – United for Peaceful Exploration of Deep Space*, U.S. Dep't of State (Oct. 2020), https://br.usembassy.gov/fact-sheet-artemis-accords-united-for-peaceful-exploration-of-deep-space/.
[88] DePagter, *supra* note 79, at 122-123.
[89] Walker A. Smith, *Using the Artemis Accords to Build Customary International Law: A Vision for a U.S.-Centric Good Governance Regime in Outer Space*, 86 J. AIR L. & COM. 661, 695 (2021), https://scholar.smu.edu/jalc/vol86/iss4/5.
[90] *Id.* at 697.

Commercialization of space property existed long before it was formalized in the SPACE Act. Dennis Hope founded the Lunar Embassy in 1980 after he filed a claim of ownership over the entire lunar surface.[91] This organization began selling lunar real estate and later diversified its property holdings to other celestial territories. To date, it has sold over 600 million acres of space land.[92] Hope markets the legality of his business with the private ownership loophole in the OST.[93] While selling space real estate may seem comical at first glance, the Lunar Embassy's ambassadors offer credence to the venture, as Hope claims to have sold the territory to "celebrities" and "three former US presidents."[94]

Yet, no federal court in the United States has adjudicated whether a private individual can own celestial land. The closest a court came was in 2004, in *Nemitz v. United States*.[95] In that case, a plaintiff claimed an asteroid, "Eros," was his private property because he registered the asteroid "with the Archimedes Institute website and …[had filed a] security interest … with the asteroid identified as the collateral."[96] After NASA landed on Eros, he sought a declaratory judgment to establish his ownership of the asteroid to afford him remedial causes of action.[97] Ultimately, the court did not engage with the theories of ownership resulting from the ambiguities in space treaties and held that there was no legally cognizable property interest in space. This judgment was affirmed on appeal.[98]

While *Nemitz* was decided before the SPACE Act of 2015, there is still uncertainty regarding how the courts will resolve property disputes.[99] There is some evidence that space property will be treated under an international obligations framework. For example, in *Wojt v. Trump*, the plaintiff alleged several "delusional" injuries by nineteen named defendants.[100] He invoked the OST as a basis for federal

---

[91] LUNAR EMBASSY, *About Our Founder Dennis Hope*, https://lunarembassy.com/who-owns-the-moon-dennis-hope/ (last visited Feb. 9, 2025).
[92] *Id.*
[93] LUNAR EMBASSY, *Extraterrestrial Property and Space Law: Fact and Fiction*, https://lunarembassy.com/current-space-law/ (last visited Feb. 2, 2025).
[94] LUNAR EMBASSY, *supra* note 91, https://lunarembassy.com/who-owns-the-moon-dennis-hope/ (last visited Feb. 9, 2025).
[95] Nemitz v. United States, No. CV-N030599-HDM (RAM), 2004 WL 3167042 (D. Nev. Apr. 26, 2004).
[96] *Id.* at 1.
[97] *Id.*
[98] Nemitz v. Nat'l Aeronautics & Space Admin., 126 F. App'x 343 (9th Cir. 2005).
[99] *See, e.g.*, Neil Merkl, *Other Issues of Interest,* 12 BUS. & COM. LITIG. FED. CTS. § 130:11 (Robert L. Haig, ed., 5th ed. 2021).
[100] Wojt v. Trump, No. 23-CV-12454, 2023 WL 6627966, at *4 (E.D. Mich. Oct. 11, 2023) (internal quotations omitted).

jurisdiction in his complaint.[101] In dismissing the suit, the Court cited *Diggs v. Richardson*, where the Court noted that international treaties create a valid cause of action if "by their terms [they] confer rights upon individual citizens" and not solely "call upon governments to take certain action."[102]

The SPACE Act does not claim to grant United States citizens title to space territory, except for claims related to extracted resources. However, as I will discuss below, this framework is ill-equipped to deal with the issues of future space exploration and commercialization, and in this environment, the Doctrine of Discovery is ripe for a resurgence.

III. DOCTRINE OF DISCOVERY IN SPACE.

With the political winds favoring private space ownership, the Doctrine of Discovery is poised for a momentous and historic revival. It is still a valid legal Doctrine for property ownership under federal law.[103] While the Doctrine is primarily associated with relations between the United States and Indian tribes, this does not restrict its purposes.[104] Its limited application in this area of law is due to its successful use in expanding the United States' territorial sovereignty over lands previously inhabited by Native peoples. However, this does not affect the Doctrine's potency regarding its general application.

The economic potential of space commercialization colors the available courses of action for national governments with incentives to establish a presence in space. As a pioneering space nation, discovering celestial territories provides advantages for resource surveying, building appropriate infrastructure, and, critically, for this Note, claims of Discovery. Our situation with space exploration is similar to that of settlers in the mid-19th century.[105] The allure of the 'Wild West' and its potential, invited federal legislation aimed to equip private individuals with the economic and legal tools to firmly establish settlement and

---

[101] Complaint at 4, Wojt v. Trump, No. 23-CV-12454, 2023 WL 6627966 (E.D. Mich. Oct. 11, 2023).
[102] *Wojt,* 2023 WL 6627966, at *4 (citing Diggs v. Richardson*,* 555 F.2d 848, 850 (D.C. Cir. 1976)) (internal quotations omitted).
[103] Miller et al., *supra* note 2, at 87.
[104] *Id.*
[105] *See* Nola Taylor Tillman, *Space Colonies Will Start Out Like the Wild West, Grow Family-Friendly*, SPACE.COM (Dec. 30, 2016), https://www.space.com/35179-space-colonies-for-future-humanity.html (last visited Feb. 2, 2025); *but see* Zach Weinersmith & Kelly Weinersmith, *Space Isn't the Final Frontier: Mars Fantasists Still Cling to Dreams of the Old West*, FOREIGN POL'Y (Jan. 21, 2024, 6:00 AM), https://foreignpolicy.com/2024/01/21/space-isnt-the-final-frontier/.

claims of Discovery.[106] This concept of the settler pioneer is interwoven in our modern national ethos.[107] It is no surprise, then, that the United States has granted private ownership rights over resources in space.[108]

This powerful tool allows early-adopter commercial entities to exploit the most lucrative space economic opportunities and sow the seeds of a future Discovery claim. While Discovery claims may be an inadvertent consequence, acknowledging private property rights in space reveals how influential space's economic potential has been on domestic policy.

By pioneering this method of space legislation, the United States has established a set of rules and customs that will govern space activities.[109] In this regard, the Artemis Accords express the United States' intention to achieve customary dominance in space.[110] This development highlights just how vulnerable the current situation is to bouts of self-interest and potential dysfunction toward open violations of the OST. To add further flavor, the United States' creation of this regime has not occurred in isolation, with Brazil, Russia, India, China, and Saudi Arabia (BRICS) pledging to establish their own Artemis Accords.[111] These two rival governance regimes will potentially create a bifurcated structure of expectations in space.[112] This development may further incentivize the United States and other national governments to safeguard their stake in the space enterprise.

A. Commissioned Discovery

For our purposes, commissioned discovery is the use of nationally directed exploratory or colonial missions. NASA, or the National

---

[106] *See*, *e.g.*, Homestead Act of 1862, ch. 75, 12 Stat. 392 (1862); Morrill Act of 1862, ch. 130, 12 Stat. 503 (1862); Pacific Railroad Act of 1862, ch. 120, 12 Stat. 489 (1862).
[107] *See* Gregory Paynter Shine, *The War and Westward Expansion*, NAT'L PARK SERV., https://www.nps.gov/articles/the-war-and-westward-expansion.htm (last visited Feb. 1, 2025).
[108] *SPACE Act*, § 403, 129 Stat. 704.
[109] *See* DePagter, *supra* note 79.
[110] *See* Smith, *supra* note 89, at 695.
[111] *See* Keith Cowing, *Do The Artemis Accords Have A New Competitor?*, NASA WATCH (Aug. 27, 2023), https://nasawatch.com/artemis/does-the-artemis-accords-have-a-new-competitor/, *Artemis Accords: Principles for Cooperation in the Civil Exploration and Use of the Moon, Mars, Comets, and Asteroids for Peaceful Purposes*, U.S. DEP'T OF STATE, https://www.state.gov/bureau-of-oceans-and-international-environmental-and-scientific-affairs/artemis-accords (last visited Feb. 9, 2025) (listing Brazil and India as signatories and illustrating the role of space policy in expanding national foreign policy objectives).
[112] *See, e.g.*, DePagter, *supra* note 79, at 131 (citing COPUOS-LSC, *Report of the Legal Subcommittee on its Fifty-Seventh Session*, ¶ 247, U.N. Doc. A/AC.105/1177 (Apr. 30, 2018)).

Aeronautics and Space Administration, engages in space exploration and is under the direct control of the United States government.[113] NASA's mission is "to pioneer the future in space exploration, scientific discovery, and aeronautics research."[114] NASA has been involved in discovering and tracking thousands of exoplanets[115] and countless more comets and asteroids.[116] These discoveries have not resulted in the United States claiming national sovereignty over celestial bodies due to the OST.

Yet, the potency of a potential Discovery claim is nonetheless present. The only legal restriction that exists is the OST. The rise of the America First policy and President Donald Trump's proposals to annex Greenland, Canada, and the Panama Canal suggest a scenario in which American interests in space could take precedence over international treaty obligations.[117] While not expressing any opinion on these policy decisions, violating or abandoning the OST in favor of a purely American-first policy remains more plausible today than ever.

By exiting the OST (or openly violating it), the United States would secure a powerful position to claim ownership of celestial bodies, the most important of which is the Moon. In 1969, Neil Armstrong and Buzz Aldrin raised the American flag on the lunar landscape in the historic Apollo 11 mission.[118] This operation was the first to successfully land a human on the Moon and was the first case of a country symbolically conquering a celestial object.[119] Scholars have not overlooked the symbolic importance of planting the American flag. As Matthew Ward, a

---

[113] National and Commercial Space Programs, Pub. L. No. 111–314, 124 Stat. 3328, § 203 (Dec. 18, 2010).
[114] *National Aeronautics and Space Administration (NASA)*, FED. REG., https://www.federalregister.gov/agencies/national-aeronautics-and-space-administration (last visited Feb. 1, 2025).
[115] *See* Chelsea Gohd, *Discovery Alert: With Six New Worlds, 5,500 Discovery Milestone Passed!*, NASA (July 16, 2024), https://science.nasa.gov/universe/exoplanets/discovery-alert-with-six-new-worlds-5500-discovery-milestone-passed/.
[116] *See Solar System Dynamics Group*, NASA JET PROPULSION LAB., https://ssd.jpl.nasa.gov/ (last visited Feb. 9, 2025).
[117] *See* Katherine Doyle & Vaughn Hillyard, *Trump Suggests He Could Use Military Force to Acquire Panama Canal and Greenland and 'Economic Force' to Annex Canada*, NBC NEWS, https://www.nbcnews.com/politics/donald-trump/trump-suggests-use-military-force-acquire-panama-canal-greenland-econo-rcna186610 (last updated Jan. 7, 2025); Mark Mazzetti & Patrick Kingsley, *Trump's Gaza Plan Reflects Broader Push for Annexation of Palestinian Land*, N.Y. TIMES (Feb. 6, 2025), https://www.nytimes.com/2025/02/06/us/politics/trump-gaza-israel-annexation-palestinian.html.
[118] *See* Leonard David, *What Happened to the American Flags Apollo Astronauts Left on the Moon?*, SPACE.COM (Jan. 13, 2025), https://www.space.com/what-happened-to-the-american-flags-on-the-moon.
[119] *Id.*

senior lecturer of history at the University of Dundee in Scotland, noted, "It is difficult to think of any other flag that's so heavily invested in meaning. The Stars and Stripes expresses the spirit, history, and identity of an entire nation."[120]

As one of the most potent national symbols, the planting of the American flag signaled to other nations that the United States was the first to be there. In this regard, placing the flag as a symbolic object eerily resembles leaving artifacts of national identity by the Lewis and Clark expedition almost a century and a half earlier.[121] As such, the seeds of a Discovery claim have already been sown.

Given the priority of a lunar settlement in the Artemis Accords,[122] the United States could very well press a valid perfected claim of Discovery over lunar lands in the near future. The possibility of claiming lunar territory is further contextualized by the United States' non-participation in the Moon Treaty.[123] A scenario where NASA spearheads an American colony project could be the impetus for exiting the OST and claiming the most strategic areas of the Moon.

Setting aside technological feasibility, other celestial objects would also be fair game, such as colonies on Mars.[124] While private initiatives may take center stage in establishing the first human colonies on the planet, national interference in these efforts should not be overlooked. The first extra-planetary colony will likely be Mars and will be a test subject for the viability of the space colony paradigm. It would be put to the test whether humanity can adhere to the highest ideals of the OST. In such a hypothetical scenario, there can only be questions of how human nature would influence the development of the colony. Would colonists be able to escape concepts of national identity? Could disputes between colonists of various nationalities prompt intervention by their home nations? Or could Earth nations avoid exerting undue influence over colonial governments?

While answering these questions is difficult, I posit that a colony would undoubtedly fall under the undue influence of a space-faring nation. The degree of sovereignty would not necessarily matter, as

---

[120] *Id.*
[121] Young, *supra* note 47, at 415.
[122] DePagter, *supra* note 79 at Part II.C.
[123] Nelson, *supra* note 72 at 402.
[124] For a discussion of the viability of Mars colonization, see, e.g., Isabella Cisneros, *The Fault in Our Mars Settlement Plans*, THE SPACE REV. (Aug. 21, 2023), https://www.thespacereview.com/article/4639/1; Igor Levchenko et al., Essay, *Mars Colonization: Beyond Getting There*, 3 GLOB. CHALLENGES 1 (2019), https://doi.org/10.1002/gch2.201800062.

geopolitical jockeying would prompt tit-for-tat politics, perhaps involving open hostilities or retaliatory colonial projects. Critics have noted that claims of sovereignty may not offer advantages because the means of enforcing laws over such a distance would be limited.[125] Yet, these critiques fail to put these colonial experiments into perspective. While that may be true now, space-faring capabilities will improve, and placing our faith in technological limits is unwise.

In this environment, the United States could claim a Martian colony for economic, geopolitical, or national security interests. The existence of American colonial settlers would offer the most straightforward means of pressing a Discovery claim. However, the consequences would likely be grim. It would likely inject the worst vice of the human experience into space—war—as nations vied to control prime space territory. For that reason, civil leaders might be reluctant to pursue this most direct form of extraterrestrial expansion. Nonetheless, the incentives may prove too significant to overlook, the most important of which is timing. As the first country to claim territory, it would have an unprecedented advantage in securing the most valuable territory over other nations, assuming the ability to vindicate its claim. This scramble could lead civil leaders to treat space colonial projects as a race where one is either first or last.[126] If not managed carefully, this situation could hinder the broader goals of space exploration and commerce.

Despite this, the geopolitical consequences of direct sovereign control may be a better alternative to the anarchy of a Wild West celestial theater. For example, the United States could regulate labor, environmental, human rights, and wealth inequities resulting from space activities.[127] While international treaties could also address these issues, the sheer number of polities involved is more likely to result in diplomatic paralysis than an actionable treaty. This is further evidenced by the fact that international powers have been unable to replace or update an outdated OST, even with emerging issues on the horizon. Furthermore, a direct ownership model would draw national boundaries into space,

---

[125] *See* Matthew R. Francis, *Musk and Bezos Offer Humanity a Grim Future in Space Colonies*, SCI. AM. (June 26, 2023), https://www.scientificamerican.com/article/musk-and-bezos-offer-humanity-a-grim-future-in-space-colonies/.

[126] *Compare* DePagter, *supra* note 79, (arguing that first-mover advantages in space will determine future cooperative treaty terms and interpretations), *with* my argument (contending that such advantages will instead lead to direct colonial involvement rather than cooperation).

[127] *See* Frank Tavares et al., *Ethical Exploration and the Role of Planetary Protection in Disrupting Colonial Practices*, 53 BULL. AM. ASTRONOMICAL SOC'Y 4, 5–6 (2021), https://arxiv.org/abs/2010.08344.

which could offer advantages to diplomatic cooperation, depending on which countries assume the most economically and strategically important areas.

B. Private Commerce in Space

The United States is most likely to invoke the Doctrine of Discovery in response to pressure from private commercial interests. The history of private space commerce has its roots in the Cold War.

In 1957, the Soviet Union launched the first satellite into space.[128] Fears of Russian space dominance prompted American investment in a robust satellite and civilian space program.[129] These concerted national efforts were the birth of the American commercial space industry.[130] By the 1970s, NASA provided space launch services for the Western world.[131] However, as private demand grew, NASA could not meet the market's launch needs, and by 1989, private commercial entities offered launch services.[132] Relaxation of federal regulations and encouragement by President Reagan led to the transition from a nationalized space industry to a private commercial one.[133] Decentralization efforts have largely been successful in fostering innovation and allowing NASA to focus its mission on scientific and explorative ventures, leaving commercial opportunities to the private sector.[134] By 2015, the commercial sector accounted for 76% of the total space market share.[135]

The new millennium also saw the rise of highly motivated and visible space companies, including SpaceX, Virgin Galactic, and Blue Origin.[136] These private players seek to revolutionize the economics of

---

[128] *The Launch of Sputnik, 1957*, U.S. DEP'T OF STATE, https://2001-2009.state.gov/r/pa/ho/time/lw/103729.htm#:~:text=On%20October%204%2C%201957%2C%20the,accomplish%20this%20scientific%20advancement%20first (last visited Feb. 9, 2025).
[129] *See* John Uri, *65 Years Ago: Sputnik Ushers in the Space Age*, NASA (Oct. 4, 2022), https://www.nasa.gov/history/65-years-ago-sputnik-ushers-in-the-space-age/#:~:text=Sputnik's%20launch%20caught%20the%20United,oversee%20its%20civilian%20space%20program (last visited Feb. 9, 2025).
[130] Matthew Weinzierl, *Space, the Final Economic Frontier*, 32 J. ECON. PERSP. 173, 175–83 (2018), http://www.jstor.org/stable/26409430.
[131] Joshua Hampson, *The Future of Space Commercialization*, Security Studies Fellow, The Niskanen Center (Jan. 25, 2017), https://science.house.gov/_cache/files/a/c/ac36f820-36a7-41ca-a611-1000fb82dc51/142DF52B9AD5C70961E1C2B57D02AC91.thefutureofspacecommercializationfinal.pdf.
[132] *Id.* at 10.
[133] *Id.*
[134] Weinzierl, *supra* note 130, at 178–185.
[135] *Id.*
[136] Weinzierl, *supra* note 130, at 178, Table 1.

space travel and commerce.[137] Today, the United States' space economy is valued at almost $200 billion and consists primarily of satellite and rocket industries.[138] However, the industry's potential to diversify and expand cannot be understated. While currently technologically impossible, asteroid mining offers the greatest economic opportunity in the history of mankind, "with astrophysicist Neil DeGrasse Tyson, among others, even claiming that the first trillionaire will be an asteroid mining mogul."[139] To illustrate, if the top ten most feasible asteroids were mined, they would yield a profit of over $1.5 trillion.[140] A hefty prize for entrepreneurs and nations alike. Private investors anticipate continued growth in space commerce thanks to the SPACE Act's assurances of property rights.[141]

As space enterprises' economic footprint grows, so does their influence. The annexation of the Kingdom of Hawaii highlighted how commercial interests influenced the United States' invocation of the Doctrine of Discovery.[142] It is a historical reminder of how commercial interests can influence political action and is a warning for the future of space policy.[143] Early indications of potentially corrupting entanglement are present today. For example, NASA has contracted SpaceX for space launches.[144] Also, they have hired private companies to collect lunar

---

[137] *Mission*, SPACEX, https://www.spacex.com/mission/ (last visited Feb. 1, 2025); *Virgin Galactic*, VIRGIN, https://www.virgin.com/virgin-companies/virgin-galactic (last visited Feb. 2, 2025); *About Blue Origin*, BLUE ORIGIN, https://www.blueorigin.com/about-blue (last visited Feb. 2, 2025).

[138] *What Is the Economic Value of the U.S. Space Industry?*, USA FACTS (Feb. 1, 2024), https://usafacts.org/articles/what-is-the-economic-value-of-the-us-space-industry/ (last visited Feb. 2, 2025).

[139] Shriya Yarlagadda, *Economics of the Stars: The Future of Asteroid Mining and the Global Economy*, HARV. INT'L REV. (Apr. 8, 2022), https://hir.harvard.edu/economics-of-the-stars/ (last visited Feb. 4, 2025).

[140] *Id.*

[141] *See, e.g.*, Reopening the American Frontier: Reducing Regulatory Barriers and Expanding American Free Enterprise in Space: Hearing Before the Subcomm. on Space, Sci., & Competitiveness of the Comm. on Com., Sci., & Transp., 115th Cong. 22 (statement of Robert T. Bigelow, Founder and President, Bigelow Aerospace, LLC) ("It's very difficult to not want that [property rights] if you're a company that is promoting mining.…You're not asking for ownership of the property, but ownership of what you extract in situ from that area.")

[142] Kuykendall, *supra* note 53.

[143] *See* Melissa J. Durkee, *Space Law as Twenty-First Century International Law*, 6 J.L. & INNOVATION 12, 27–28 (2023) (citing, e.g., Andrew Moravcsik, *Taking Preferences Seriously: A Liberal Theory of International Politics*, 51 INT'L ORG. 513, 518 (1997); Robert D. Putnam, *Diplomacy and Domestic Politics: The Logic of Two-Level Games*, 42 INT'L ORG. 427, 434 (1988)).

[144] Press Release, NASA, *NASA Awards Launch Services Contract for Space Telescope Mission* (July 2, 2024), https://www.nasa.gov/news-release/nasa-awards-launch-services-contract-for-space-telescope-mission/.

materials for one of their space programs.[145] While seemingly benign, these contracts represent a growing influence of private commercial interests over national space capabilities. More alarmingly, commercial interests have already swayed federal policy. For instance, commercial enterprises heavily lobbied Congress to pass the SPACE Act.[146] In her article, Melissa Durkee contends that "this private lobbying was a significant factor prompting the legislation," and "space companies have nudged the United States…to adopt commerce-friendly interpretations of the Outer Space Treaty."[147]

While perhaps par for the course in Washington, these issues present a more pressing question about the future of the United States' space policy: How will private interests influence space policy?

The United States recognizes private ownership rights to space resources; however, it does not recognize ownership of the territory from which they are taken. [148] This seemingly clever distinction assures commercial enterprises that their economic risks will not be in vain. However, it teeters on naiveté to think this is a stable legal framework for American space policy. Intuitively, future economic development zones in space will be in areas with low costs and high potential for financial gain. Due to the exorbitant costs of space travel,[149] early space enterprises will compete for access to the same areas of celestial land. Entry barriers could limit competitive forces, but given the massive economic incentives, these would likely only bar early adopters. As such, competitors would rush to pre-developed, pre-surveyed, and pre-vetted areas by other space enterprises.[150]

Limiting property rights to extracted resources, thus, hallows the

---

[145] Press Release, NASA, *NASA Selects Companies to Collect Lunar Resources for Artemis Demonstrations* (Dec. 3, 2020), https://www.nasa.gov/news-release/nasa-selects-companies-to-collect-lunar-resources-for-artemis-demonstrations/.
[146] *Durkee*, *supra* note 143, at 27–30. *See also* S.1297, U.S. COMMERCIAL SPACE LAUNCH COMPETITIVENESS ACT, OPENSECRETS, https://www.opensecrets.org/federal-lobbying/bills/summary?id=s1297-114 (last visited Feb. 4, 2025).
[147] *Durkee*, *supra* note 143, at 28–29.
[148] *SPACE Act*, § 403, 129 Stat. 704.
[149] NSTXL, *Reducing the Cost of Space Travel with Reusable Launch Vehicles*, NSTXL (Feb. 12, 2024), https://nstxl.org/reducing-the-cost-of-space-travel-with-reusable-launch-vehicles/ (last visited Feb. 4, 2025) (stating that "SpaceX's Falcon 9 rocket launches have been advertised at around $62 million per launch, while larger rockets like the Falcon Heavy can cost upwards of $90 million per launch.").
[150] For a more collaborative solution, see Stephanie Meursing, *Space Mining: Ethical Issues and Some Possible Solutions*, *Blue Marble Space Institute of Science* (Sept. 12, 2017), https://bmsis.org/space-mining-ethical-issues-and-some-possible-solutions/ (proposing a stake purchasing and sharing arrangement for private companies engaged in space mining).

effectiveness of the property interest.[151] As William Blackstone, in his commentaries, noted almost 200 years ago:

> It was clear that the earth would not produce her fruits in sufficient quantities without the assistance of tillage; but who would be at the pains of tilling it, if another might watch an opportunity to seize upon and enjoy the product of his industry, art, and labor? Had not therefore a separate property in lands, as well as moveables, been vested in some individuals, the world must have continued a forest.[152]

By limiting property interests to resources, the United States has effectively restricted its legal framework to a period without competition. This short-sighted policy is unlikely to satisfy commercial interests once technological capabilities reach a certain threshold. Without a significant change in the OST's terms or interpretation, the United States would be forced to intervene to ward off potential economic rivals or risk the loss of lucrative, economically productive land.

National intervention would not be limited to the sword but could likely devolve into it. Recognition would serve as a means to safeguard commercial interests and help deter potential rivals by invoking the protection of the United States. This would require an extension of sovereignty over these areas unless a communal theory of space property ownership is adopted—a stance rejected by President Trump.[153] In this environment, the Doctrine of Discovery would provide a legal mechanism for recognition and pave the way for more sophisticated and coordinated methods of invoking the Doctrine, such as chartered discovery.

C. Chartered Discovery

With commercial opportunities constantly threatened with misappropriation, the United States would be forced to violate or leave the OST, exposing celestial bodies to Discovery claims. These claims

---

[151] *Cf., e.g.*, JAMES M. ACHESON, THE LOBSTER GANGS OF MAINE 142–152 (Univ. Press of New Eng. 1988), https://www.jstor.org/stable/j.ctv1xx99v9 (discussing communal policing of lobster fisheries as an effective resource management system). This could be an alternative model of property oversight space bodies, but it risks overzealous private action, exacerbating the likelihood of conflicts.

[152] 2 WILLIAM BLACKSTONE, COMMENTARIES ON THE LAWS OF ENGLAND 7 (1766).

[153] Exec. Order No. 13,914, 3 C.F.R. 273 (2020). *Cf.* Christopher Mirasola, *Common Heritage as Public Trust: A Property Law Approach to Managing Resources Beyond National Jurisdiction*, 97 S. CAL. L. REV. 1469 (2024) (arguing for a public trust doctrine to be adopted over space resources).

carry the most essential property right—the right to exclude.[154] This right would give commercial entities an advantage over competitors from countries that are parties to the OST. Notably, private entities could enjoy exclusive economic rights over territory and the associated financial gains. This arrangement would enable competitors to identify which areas are claimed, allowing them to make more informed business decisions. Additionally, it could reduce hostility by ensuring that private actors are aware of state ownership and the repercussions of violating national boundaries. Consequently, these entities would be motivated to influence federal policy toward outright appropriation.

This eventuality is further supported by the intimate entanglement of national regulation over commercial activities required by the OST.[155] Given the inertia of the current regime, a colony or commercial venture is unlikely to escape its host country's legal framework. The relationship between commercial ventures and their host countries would ensure the exportation of national laws to colonies. Further, it is unlikely that a host country would voluntarily release corporate interests from oversight, given the power is already delegated to it in the OST.[156] Given these pressures, national interests would be heavily vested in the success of space ventures, particularly given the economic and national security interests at stake.[157]

With this in mind, the future of colonial efforts will likely involve chartered exploration, similar to the Dutch and, notably, the English charter companies of the past. Historically, charter companies were private entities granted sovereign authority "to govern as well as to carry on commerce in territory placed under their jurisdiction."[158] They acted as quasi-independent governments, cloaked with "subtle lines of state control" and were "a unique device by which private enterprise… [was]

---

[154] Thomas W. Merrill, *Property and the Right to Exclude*, 77 NEB. L. REV. 730, 730 (1998) (citing Kaiser Aetna v. United States, 444 U.S. 164, 176 (1979)); *see also* Dolan v. City of Tigard, 512 U.S. 374, 384 (1994); Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1044 (1992); Nollan v. Cal. Coastal Comm'n, 483 U.S. 825, 831 (1987).

[155] *OST*, *supra* note 67, at art. VIII; *see also*, Thomas E. Hart, *Jurisdiction on Mars*, COLUM. SCI. & TECH. L. REV. BLOG (Jan. 20, 2021), https://journals.library.columbia.edu/index.php/stlr/blog/view/298.

[156] *OST*, *supra* note 67, at art. VIII.

[157] *See* Terri Moon Cronk, *U.S. Access to Space Is a Vital National Interest*, U.S. DEP'T OF DEF. (Feb. 25, 2021), https://www.defense.gov/News/News-Stories/article/article/2516139/us-access-to-space-is-a-vital-national-interest/; Ian Ching, *Private Enterprise is America's Key to the Modern Space Race*, THE NAT'L INT. (Nov. 26, 2023), https://nationalinterest.org/blog/techland/private-enterprise-americas-key-modern-space-race-207496.

[158] EUGENE STALEY, WAR AND THE PRIVATE INVESTOR 304 (Univ. of Chi. Press 1935); *See also,* PHILIP J. STERN, EMPIRE, INCORPORATED: THE CORPORATIONS THAT BUILT BRITISH COLONIALISM (Harv. Univ. Press 2023).

harnessed to national policy abroad in a period of colonial conquest."[159] These vessels of the Doctrine of Discovery were critical to the efficiency of European colonization and represented how commercial interest could attach itself to the prospect of expansion. Given the size and influence of the American space commercial industry, this is the most likely scenario for space discovery claims. Further, as illustrated above, the dangers of un-chartered discovery projects would incentivize national protection for these projects anyway.

There are two potential examples of chartered discovery: *ex post facto* and nationally directed chartered discovery. The former refers to government intervention that occurs after private entities have already begun space colonization or commercialization and subsequently receive national protection.

Take, for example, the two most famous commercial entities proposing space colonial projects, SpaceX and Blue Origin.[160] While both companies have different visions for what they consider to be the future of space colonies, each represents a vessel for *ex post facto* chartered discovery.[161] In a scenario where either of these entities engages in independent and private colonial projects, these ventures could be encroached upon by foreign private actors or outright conquered by other nations. In such a scenario, the United States would be compelled to extend protection to these private undertakings or risk the loss of these economic opportunities. This protection would likely not outright violate the OST, but would almost certainly prompt retaliation. This is a development that the OST is incapable of resolving.

The possibility of intervention is not a far-off possibility. The SPACE Act illustrates that the United States is willing and able to take unprecedented measures to secure its economic and political interests in space.[162] Should foreign actors threaten American commercial space ventures, the United States government would likely assume quasi-governmental control over private projects and territory to safeguard them. This scenario becomes more plausible given the significant influence that commercial space interests already wield over federal policy. The growing connections between industry leaders, such as Elon Musk, and political figures further illustrate how the boundaries between

---

[159] STALEY, *supra* note 158 at 304.
[160] Ellyn Lapointe, *We Put Elon Musk's Dream to Colonize Mars Up Against Jeff Bezos' Vision of Living in Space—And One Is More Realistic*, BUS. INSIDER (July 29, 2024), https://www.businessinsider.com/elon-musk-mars-colonies-vs-jeff-bezos-space-station-realistic-2024-7.
[161] *Id.*
[162] DePagter, *supra* note 79 at A.

private enterprise and government authority are increasingly blurred in the space sector.[163]

Setting aside *ex post facto* national intervention, chartered discovery may also entail directed national efforts, such as the United States selling discovery rights to private space explorers. This commercialized application of the Doctrine differs from the *ex-post facto* chartered discovery in terms of timing and signaling benefits.

For timing, nationally directed chartered discovery would involve establishing pre-determined objectives between private actors and the government to claim space territory. This approach offers significant signaling advantages as it informs third parties about the national ownership rights associated with private activities from the onset, warning potential encroachers and eliminating information asymmetries for commercial players. These theoretical advantages are already becoming evident as private commercial space interests exert growing influence over government policy.

Whatever the means, the current situation suggests that the framework of chartered discovery is slowly taking shape. While this is by no means conclusive evidence that chartered discovery will occur, it is worth noting that if Discovery were to be employed, private entities would already have their foot in the door.

IV. PROCEDURE OF DISCOVERY

Throughout this Note, claims of Discovery have been used synonymously with actual perfection of ownership. However, this was an oversimplification with brevity and clarity in mind. This section will examine the procedure and limitations of using the Doctrine. Given the complexity and situational nature of hypothesizing a space Discovery claim, this section will only offer a general overview of the procedure.

The three elements of a space discovery claim are (1) action by the sovereign, (2) the discovery factors, and (3) international recognition. These factors condense the historical application of the Doctrine and adapt them for general use in space.

On the first factor, in *M'Intosh*, the Supreme Court held that the

---

[163] *See* Holly Honderich, Kayla Epstein & Lily Jamali, '*People Seem Dumbstruck*' – *Inside Musk's Race to Upend Government*, BBC NEWS (Feb. 5, 2025), https://www.bbc.com/news/articles/c1dg95dyxygo; David Smith, *Elon Musk's Clash with the Federal Government Escalates*, N.Y. TIMES (Feb. 3, 2025), https://www.nytimes.com/2025/02/03/us/politics/musk-federal-government.html.

Doctrine of Discovery does not extend to private actors.[164] The authority of Discovery exclusively commissions the sovereign to vindicate its claims against others.[165] The same would be true in the context of space. The United States, not a private entity, would have to vindicate its claims of Discovery. Private entities could facilitate national Discovery claims but not unilaterally enforce them.

On the second element, the Discovery claim factors are a) First Discovery, b) Actual Occupancy and Possession, c) Continuity, and d) Terra Nullius.[166] These were not legal factors in a strict sense. They were a general set of proposed justifications that depended on the situation and utility in a colonizable area.[167] The actual standard for what enabled the legal justification of a Discovery claim was, ultimately, international recognition.[168] Notwithstanding this practical reality, the factors were still essential to garnering international recognition.[169] Today, international courts and tribunals continue to rely on the Discovery factors and recognition to determine the validity of competing countries' claims over territory.[170] Given the unique challenges of reaching space, occupancy, and possession would be the most decisive factors in establishing a Discovery claim in space. The presence of settlers or commercial operations would give the United States a massive leverage point if the claim were disputed. Further, space is unique in that it is uninhabited. What would the options of other countries be? The United States would have de facto control over the area, and with a military deterrent, there would be little choice for other nations but to accept its ownership. The other factors would be supplementary to adjudicating disputes between rival discovery claimants.

On the third factor, since the OST is still a valid treaty obligation, recognizing Discovery claims would involve violating or withdrawing from the treaty. Most countries comply with treaty obligations even without an enforcement mechanism, which the OST lacks.[171] One proposed reason is that "[s]tates refrain from violating treaties…because

---

[164] *M'Intosh*, 21 U.S. at 567 ("Discovery is the foundation of title, in European nations…").
[165] *Id.* at 573.
[166] Miller & Hobbs, *supra* note 3, at 281–84 (internal citations omitted).
[167] *Supra* note 25.
[168] *Supra* note 22.
[169] *Supra* note 25.
[170] Seokwoo Lee, *Continuing Relevance of Traditional Modes of Territorial Acquisition in International Law and Modest Proposal*, 16 CONN. J. INT'L L. 1, n.12 (2000).
[171] LOUIS HENKIN, HOW NATIONS BEHAVE 47 (2d ed. 1979) (emphasis omitted); *See also*, Harold Hongju Koh, *Review Essay: Why Do Nations Obey International Law?*, 106 YALE L.J. 2599, 2599–2600 n.2 (1997).

they fear retaliation from the other state or some kind of reputational loss, or because they fear a failure of coordination [between them and the international community]."[172] Taken together, the reasons to adhere to international obligations rest on a complex analysis of opportunities and opportunity costs.[173] For a Discovery claim, the opportunity is the territorial acquisition, and the price is international retaliation, condemnation, and loss of respect.

As Professor Malcolm Shaw noted in his work *International Law*, "International recognition…involves not only a means of creating rules of international law in terms of practice and consent of states, but may validate situations of dubious origin. A series of recognitions could validate an unlawful acquisition of territory…."[174] Shaw's insights point to the elephant in the room regarding international treaties: international acquiescence creates legality, at least after some time interval.[175] Thus, American claims of Discovery could involve violating the OST if enough countries recognized its territorial claims. However, it is more likely that the United States would choose to withdraw from the treaty, hoping this would enhance the likelihood of gaining recognition from the international community. That said, if the United States remains a party to the treaty and chooses to violate it, the fulfillment of the Discovery factors would likely be irrelevant. Instead, the U.S. would base its claims on its military and economic power.

Another consideration is the means of withdrawal. Article XVI outlines the process for withdrawing from the OST: "[a]ny State Party to the Treaty may give notice of its withdrawal from the Treaty one year after its entry into force …."[176] This clear instruction is complicated by issues of federalism in the American system, specifically whether the

---

[172] ERIC A. POSNER & JACK L. GOLDSMITH, THE LIMITS OF INTERNATIONAL LAW 90 (Oxford Univ. Press 2005).

[173] For a more detailed analysis of this issue, *see* Julian Ku & John Yoo, *Bond, the Treaty Power, and the Overlooked Value of Non-Self-Executing Treaties*, 90 Notre Dame L. Rev. 1607, 1619–1629 (2015).

[174] MALCOLM SHAW, INTERNATIONAL LAW 353 (4th ed. 1997), quoted in Seokwoo Lee, *supra* note 170.

[175] *See also*, R. Y. Jennings, *Recognition, Acquiescence and Estoppel*, *in* THE ACQUISITION OF TERRITORY IN INTERNATIONAL LAW 56 (Marcelo G. Kohen ed., Manchester Univ. Press 2017) ("It must be emphasized again, however, that it is only in a context of effective possession that recognition of a situation by third States can be a mode of consolidation of title."), available at https://www.jstor.org/stable/jj.15976614.7. However, it is important to note that acquiescence only assures legality, and illegal actions could still be worth the risk.

[176] *OST* at art. XVI.

President has the unilateral authority to withdraw from treaties.[177] The Supreme Court has considered the issue nonjusticiable.[178] This has paved the way for unilateral executive authority over the withdrawal from treaties, subject to the implementation of domestic legislation.[179]

In the context of the OST, Congress has passed tangentially related domestic legislation, and executive agencies have enacted corresponding federal rules.[180] However, given the OST's unique nature and focus on national activities, no domestic legislation expressly prohibits the federal government from claiming territory in space. Thus, the president could unilaterally withdraw from the OST and pave the way for Space Discovery claims.

CONCLUSION

Space represents the next step in humanity's embodiment of the trailblazing spirit, but we should not ignore the potential consequences. Geopolitical and economic realities have stunted early attempts to curtail the potential negative externalities associated with our exploration. These failures have resulted in an environment that mirrors European colonial expansion during the Age of Discovery.

These similarities go beyond reductionist insights that there is open territory for the taking; instead, they concern the space-age parties' incentives. These influences predict a future where international obligations are cast off in favor of national and private self-interest. In an environment where "the strong do what they can and the weak suffer

---

[177] *See, e.g.,* Barry M. Goldwater, *Treaty Termination Is a Shared Power*, 65 A.B.A. J. 198, 199–201 (1979); Cormac H. Broeg, *Leaving the Twilight Zone: A Congressional Check on Treaty Termination*, NEB. L. REV. BULL. (Nov. 14, 2020), available at https://lawreview.unl.edu/leaving-twilight-zone-congressional-check-treaty-termination/.

[178] *See* Goldwater v. Carter, 444 U.S. 996 (1979); *See also*, Ku & Yoo, *supra* note 173, at 1608.

[179] *Id.*; *See also*, Cormac H. Broeg, *supra* note 177.

[180] *See, e.g.*, *SPACE Act* § 51303, 129 Stat. 704, 711 (2015) ("A United States citizen engaged in commercial recovery of an asteroid resource or a space resource under this chapter shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell … [it] in accordance with applicable law, including the international obligations of the United States."), 14 C.F.R. § 400.1 (2021) ("basis for the regulations in this chapter is under the Commercial Space Launch Act of 1984 and applicable treaties and international agreements to which the United States is party."), 51 U.S.C. § 50919(e)(1) (2018) ("The Secretary of Transportation shall—carry out this chapter consistent with an obligation the United States Government assumes in a treaty, convention, or agreement in force between the Government and the government of a foreign country.").

what they must,"[181] scrambles for celestial territory would require legal justification, which the Doctrine of Discovery would offer. This Doctrine, while a relic of the past, remains potent. It has lurked in a sequestered corner of federal law while maintaining its colonial capabilities. Using commissioned or chartered discovery expeditions followed by settlement or occupation would likely satisfy a claim of ownership under the Doctrine. These, if recognized, could result in the first legal acquisition of title to space territory.

A possible solution moving forward is rethinking current space policy and establishing new international agreements with enforcement teeth to amend, improve, and adapt the OST. International reprisals and condemnation are deterrent enough under the current regime, but this will not last. Confusion and ambiguity over private property rights are ripe for instigating conflict and disputes. These issues are best solved by establishing a universal treaty on space property rights that involves international enforcement, perhaps paralleling international maritime law.[182] This would give commercial interests the necessary notice to follow a prescribed system of conduct and provide a means of effectively adjudicating disputes without violence. However, this is unlikely to occur due to the challenges of reaching an international consensus, particularly with an ideological battlefield over space property rights forming.[183] That said, the most practical solution is incremental amendments to the OST. It remains the most important space treaty, and adhering to its framework would legitimize future space policy.

Assuming the OST is amended and/or the shortcomings I have predicted do not transpire, another possible solution is that the Doctrine of Discovery is either legislatively constrained to Earth or, under judicial review, considered inapplicable in space. Considering its importance to federal Indian law, the Doctrine could not be invalidated entirely.[184] However, a legislative amendment to the Doctrine is doubtful because it is difficult to speculate on the political will to curtail American ambitions in space. While it may be necessary or prudent, this does not equate to legislative feasibility. Moreover, courts may be reluctant to legislate from the bench by adding additional considerations to a centuries-old Doctrine.

---

[181] THUCYDIDES, HISTORY OF THE PELOPONNESIAN WAR, bk. 5, ch. 89 (Rex Warner trans., Penguin Books, 1954).
[182] *See* Rachel Rogers, *The Sea of the Universe: How Maritime Law's Limitation on Liability Gets It Right, and Why Space Law Should Follow by Example*, 26 IND. J. GLOBAL LEGAL STUD. 741 (2019).
[183] *Supra* note 111.
[184] *Supra* note 40.

Setting aside the possibility of reform, a potential solution is to embrace the national appropriation model and, thus, the employment of the Doctrine. On Earth, borders work,[185] and in space, there is nothing to suggest that the same would not be true. Our current international legal framework relies on the background principle of territorially defined states, which has allowed agreements to prevent hostilities.[186] Fitting space activities into our current legal framework of territorial borders may prove more effective than attempting a revolution in our international agreements. By exporting a proven system into space, we would avoid the costs of development associated with a new international architecture and provide clear notice of expectations for space activities. Overall, this solution may provide reassurance if international agreements do not effectively tackle space-related challenges. This approach, however, risks overlooking the chance to create a tailored framework for space governance and raises concerns about potentially endorsing competitive behavior among nations in space.

Ultimately, the current situation necessitates amending the OST or adopting a new treaty altogether, and if this cannot be accomplished, the United States must withdraw from the treaty. The groundwork has been laid for national and private self-interest to exploit international paralysis on space policy. Ignoring this development will almost certainly lead to conflict, the loss of unprecedented economic opportunities, and, ultimately, a compromise to national security. Although the United States may have played a role in shaping the current environment, this situation primarily stems from the OST's failure to address contemporary challenges of space activity.

If we are to dance with the devil, we might as well take the lead. The current disjointed framework threatens to invite the major space-faring nations to exploit an unresponsive and ill-equipped treaty framework. Unless the United States wishes to be at the mercy of these actors, it must take a calculated risk and withdraw from the treaty. By

---

[185] *See* Beth A. Simmons, *Analytical Essay: Border Rules*, 21 INT'L STUD. REV. 256 (2019), at 0, 1–28, https://academic.oup.com/isr/advance-article-abstract/doi/10.1093/isr/viz013/5381123 (last visited Mar. 21, 2019) ("Moreover, settled borders produce joint gains, including peace, increased bilateral trade, and investment.") (internal citations omitted). *See also*, David B. Carter & H.E. Goemans, *The Making of the Territorial Order: New Borders and the Emergence of Interstate Conflict*, 65 INT'L ORG. 275 (2011).

[186] U.N. Charter art. 2(4) ("All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations."), available at http://avalon.law.yale.edu/20th_century/unchart.asp.

doing so, the United States can take an active role in establishing customs and expectations for the future of space activity, reducing unnecessary hostilities, and fostering policies focused on peace, stability, and economic fairness in space. While I recognize that this may involve the invocation of the Doctrine, it is difficult to claim that the current model would fare much better if left to govern future space conduct. Appropriation or not, there must be a unified policy over the commercialization of the final frontier, and the United States is in the best position to provide that leadership.

Although I hesitate to propose this solution, decisive action is necessary. Time is quickly running out. These events that this Note foresees are quickly arriving on the horizon, and I fear that if we are blind to our destination, we may drift too close to shore. I hope this Note acts as a warning and a guide to policy leaders who hope, as do I, for the future prosperity and success of humanity's space ventures.