SOVEREIGNTY IN SPACE: FINDING A SOURCE OF PRIVATE PROPERTY RIGHTS IN THE FINAL FRONTIER

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I. INTRODUCTION

The exploration and colonization of space will prove to be a wholly unique experience for humanity. With the exception of minor forays and activity in the immediate surrounding environment of Earth,[1] outer space

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[1] *See generally* Paul B. Larsen, *Outer Space: How Shall the World's Governments Establish Order Among Competing Interests?*, 29 WASH. INT'L L.J. 1 (2019).

is—as yet observed—without complex life and history developed by it.[2] This lack of living presence and recorded history creates a metaphorical vacuum within the literal vacuum of outer space. That vacuum opens many opportunities, not the least of which being the use and exploration of other planetary bodies free from horrors created by the world's past practice of colonialism.

It hardly needs saying that this unique opportunity presents novel problems to those laying the groundwork for future activity in outer space. What areas and resources can be used? What technologies are still needed to make it possible or practical to maintain life for an extended period of time among the stars? Is any of this obtainable in terms of funding? All things you might expect to be normal considerations for new projects of this magnitude. However, over the past few decades, as humanity has come ever closer to making settlement and exploitation a truly obtainable goal, a particularly pesky question has begun to pop up. Whose is it?

It is not exactly the kind of question an enthusiast or young aspiring space traveler might leap to ask. It certainly does not conjure up the kind of principles and idealistic future one might see following the words "space, the final frontier . . . ."[3] But it is a necessary question nevertheless. Because with the difficulties inherent in attempting to reach into the stars and the significant costs accompanying them,[4] regardless of who is doing the reaching, they will want some assurance that it will be worth it. And although the mystical and boundless allure of outer space itself might seem value enough for many, for those best positioned to make it a reality, that worth comes in financial terms. Thus, who owns it all?

Governing activities, rights, and obligations of groups who have achieved space flight is hardly a novel concept. A body of international law has been developing for decades, beginning in a broad sense with the signing of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (the "Outer Space Treaty").[5] The Outer Space Treaty has

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[2] Reed Elizabeth Loder, *Asteroid Mining: Ecological Jurisprudence Beyond Earth*, 36 VA. ENV'T L.J. 275, 303 (2018).

[3] *Star Trek: The Original Series* (Desilu Productions & Norway Productions 1966).

[4] Phoebe T. Clewley, *Newspace: The Rise of the Private Space Industry Is Threatening the Current Legal Framework Governing Outer Space*, 21 J. HIGH TECH. L. 354, 374–75 (2021).

[5] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205 [hereinafter Outer Space Treaty].

since been joined by a handful of other treaties and principles established through the United Nations to form much of what we might call space law.[6] The international community has further developed international agreements independent of the UN, such as that controlling the use of the International Space Station, to facilitate new activities as new needs appeared.[7] Individual states have, of course, developed their own policy regulating their own space projects and activities of private groups.[8] But in large, it is the Outer Space Treaty that still frames how the international community sees and interprets law governing activity in space. That is, until recently.

Until very recently, only state actors[9] had achieved space flight and each state with that capacity had ratified the Outer Space Treaty.[10] Thus, there was no doubt that the treaty and its provisions applied to restrict the activity of those state actors in outer space.[11] Now, however, it is becoming increasingly clear that private actors will have the ability to engage in

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[6] *See generally* Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, Apr. 22, 1968, 19 U.S.T. 7570, 672 U.N.T.S. 119; Convention on International Liability for Damage Caused by Space Objects, Mar. 29, 1972, 24 U.S.T. 2389, 961 U.N.T.S. 187; Convention on Registration of Objects Launched into Outer Space, *opened for signature* Jan. 14, 1975, 28 U.S.T. 695, 1023 U.N.T.S. 15.

[7] Agreement Among the Government of Canada, Governments of Member States of the European Space Agency, the Government of Japan, the Government of the Russian Federation and the Government of the United States of America Concerning Cooperation on the Civil International Space Station, Jan. 29, 1998, T.I.A.S. 12927.

[8] *See, e.g.*, Open-Market Reorganization for the Betterment of International Telecommunications (ORBIT) Act, Pub. L. No. 106-180, 114 Stat. 48 (2000) (protecting United States telecommunication business through specific licensing tests).

[9] This comment uses the terms "state actors" and "state parties" interchangeably to refer to the sovereign political bodies which govern a country or territory. "State Parties" is the language used by the Outer Space Treaty itself to refer to those states which have ratified the Treaty, but not all state actors have done so and thus, are not bound by its provisions. Conversely, "private" actors will refer to any individual, business, or non-governmental organization which exists under the jurisdiction and control of a state and is not itself a sovereign entity.

[10] In 1990, a spacecraft fully developed by a private entity reached outer space for the first time. *Pegasus*, NORTHROP GRUMMAN, https://www.northropgrumman.com/wp-content/uploads/Pegasus-Rocket.pdf (last visited Aug. 13, 2021). However, commercial space activity did not really take off until the 2000's, and it was not until 2020 that the first manned flight on a privately developed spacecraft occurred. Mina Kaji & Nathan Luna, *NASA Astronauts Reflect on 1st Private Space Launch*, ABC NEWS (June 9, 2020, 11:40 AM), https://abcnews.go.com/Politics/nasa-astronauts-reflect-1st-private-space-launch/story?id=71150191.

[11] *See* Alexander Lewis, Note, *A Bundle of Sticks in Zero G: Non-State Actor Mining Rights for Celestial Bodies*, 25 SW. J. INT'L L. 393, 403 (2019).

space travel and the capacity to begin the process of things like mining asteroids, expanding tourism into outer space, and more in the near future.[12] The earlier question of who might own property in outer space is complicated then, by whether the same limitations placed on state actors—those party to the Outer Space Treaty—will apply to private actors within their jurisdiction.[13]

Private property rights, whether they are permitted, and who may grant or recognize them have thus been topics of considerable scholarly discussion in recent years.[14] Within that scholarship, two broad camps have formed, the first arguing that the Outer Space Treaty was never intended to, nor should it encompass the activities of private actors, and the second arguing a broader interpretation of the treaty to include the activity of private actors.[15] While both will be addressed, this comment argues in support of the latter. Arguments in support of this broader interpretation generally assert either that an international governing body should be formed pursuant to the Treaty to distribute and regulate rights to land and resources in space,[16] or that the Outer Space Treaty must be amended to make way for the inevitability of commercial space industry and independent state regulations that will follow.[17] However, these arguments for a broad interpretation are incomplete; first, because they focus on specific articles of the Treaty and fail to consider how the full language of the treaty supports a broad interpretation, and second, they have not analyzed the property rights question from a more complete global perspective.

This comment seeks to fill the gap left by the current scholarship that argues for an international regulatory body to control the allocation and

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[12] Mike Wall, *Asteroid Mining May Be a Reality by 2025*, SPACE (Aug. 11, 2015), https://www.space.com/30213-asteroid-mining-planetary-resources-2025.html.

[13] Until a state which has not ratified the Outer Space Treaty develops the capacity to send objects or personnel to outer space, this effectively encompasses all private actors regardless of their country of origin. As this comment will expand upon later, Article VIII to the Treaty assigns jurisdiction and control to the state party to the treaty which launches the object into outer space. Outer Space Treaty art. VIII, Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205.

[14] *See e.g.*, *infra* note 20, at 232, 234–35.

[15] *Compare* Alan Wasser & Douglas Jobes, *Space Settlements, Property Rights, and International Law: Could a Lunar Settlement Claim the Lunar Real Estate It Needs to Survive?*, 73 J. AIR L. & COM. 37, 40 (2008), *with* Kurt Taylor, Comment, *Fictions of the Final Frontier: Why the United States Space Act of 2015 Is Illegal*, 33 EMORY INT'L L. REV. 653, 657 (2019).

[16] *See* Hunter Sutherland, Note, *The Stakes Are Out of This World: How to Fix the Space Act of 2015*, 22 VT. J. ENV'T. L. 100, 125 (2021).

[17] *See* Taylor, *supra* note 15, at 675–76.

regulation of property rights in space, or alternatively, a shift in international law to permit private appropriation, by analyzing the nature of sovereignty and property rights as they exist in outer space. It first shows that a correct interpretation of the language of the Outer Space Treaty leads to the conclusion that both state and private actors are prohibited from appropriating territory and resources in space. It then argues that, even were the language of the Treaty interpreted narrowly—so as only to prohibit state parties from claiming sovereignty—due to the unique challenges and opportunities presented, it is effectively still impossible for private actors to develop rights to property without still breaching the Treaty.

In Part II, this comment explores the current body of law that governs the use and exploration of space. Part III collects and reflects on the two prevailing interpretations and where the arguments for each either err or fall short. Part IV explains the governing methods of treaty interpretation available and why they lead to a broad interpretation of the Treaty. Finally, Part V shows how under both common law and civil law systems, given the current limitations of space travel, private property rights can only derive from the Outer Space Treaty itself.

II. BACKGROUND

Regulation of activity in space is primarily an international affair governed by a handful of agreements overseen by the United Nations Committee on the Peaceful Uses of Outer Space ("COPUOS").[18] Foremost among these treaties is the Outer Space Treaty, which provides both the framework for much of outer space law, as well as the bulk of international policy addressing property rights.[19] The 1979 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (the "Moon Treaty") expands upon the Outer Space Treaty in regulating property rights among other things, but has not been widely adopted by U.N. member states.[20] The remaining treaties will not be addressed here, as they

[18] *Id.* at 658.

[19] Elizabeth Howell, *Who Owns the Moon? Space Law & Outer Space Treaties*, SPACE (Oct. 27, 2017), https://www.space.com/33440-space-law.html.

[20] Comm. On the Peaceful Uses of Outer Space, Rep. of the Legal Subcomm. On Its Sixtieth Session, U.N. Doc. A/AC.105/C.2, at 5–10, (May 31, 2021).

do not create or significantly alter standards for property rights in outer space beyond those set by the Outer Space Treaty and Moon Treaty.[21]

The Outer Space Treaty does not directly address whether and how private property rights in outer space may be created. It contains several provisions, however, which taken together, provide important implications on the question. Perhaps most important is Article II which states that "[o]uter space . . . is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."[22] The "national appropriation" language, in particular, has been the source of much scholarly debate over whether the treaty prohibits such activities by state actors, private actors, or both.[23] While it is clear from a plain reading that it prohibits claims over land or other resources from outer space,[24] it is less clear who is prohibited from doing so.

Article II is not the sole portion of the Outer Space Treaty with implications as to development of property rights—or lack thereof—in space. Under Articles VI and VII, state parties are assigned general responsibility for national activities in space and liability for any damages caused by objects launched into space respectively.[25] Under Article VI:

> States Parties to the Treaty shall bear international responsibility for national activities in outer space . . . whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities of non-governmental entities in outer space, including the Moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty.[26]

Article VII further states that:

> Each State Party to the Treaty that launches or procures the launching of an object into outer space . . ., and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons by such object . . . .[27]

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[21] *See* Rory Bennett, Note, *Property Rights in a Vacuum: A Moon Anarchist's Guide to Prospecting*, 63 ARIZ. L. REV. 229, 234 (2021).

[22] Outer Space Treaty art. II, Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205.

[23] *See, e.g.*, Andrew R. Brehm, Note, *Private Property in Outer Space: Establishing a Foundation for Future Exploration*, 33 WIS. INT'L L.J. 353, 359–62 (2015).

[24] *See* Outer Space Treaty, *supra* note 22.

[25] Susan J. Trepczynski, *New Space Activities Expose a Potential Regulatory Vacuum*, 40:1–2 J. SPACE L. 215, 216–17 (2015–2016).

[26] Outer Space Treaty art. VI, Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205.

[27] Outer Space Treaty art. VII, Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205.

While not discussing ownership directly, both provisions have important implications in that they establish some level of control over any object or personnel sent to space by state parties. Perhaps more importantly, they are far more explicit in *who* they address than Article II, assigning responsibility not only for activities of state actors, but private ones as well.[28]

Most explicit in its mention of property or ownership, however, is Article VIII, which governs ownership and control over objects and personnel launched into space.[29] It reads that "[a] State Party to the Treaty on whose registry an object is launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space . . . ."[30] A state's ownership and control under this Article is effectively preserved over anything sent to space or returned to Earth.[31] Article VIII does not address the question of ownership or control over areas occupied or any materials collected while already in outer space.

The Outer Space Treaty is not the only basis for space law as mentioned above. The second major international effort to regulate the activities of humanity in space came in the form of the Moon Treaty.[32] Remarkably more explicit in its treatment of property rights and ownership of territory and resources in outer space,[33] Article 11 of the Moon Treaty takes the same principles used by the Outer Space Treaty and develops them further. Though it uses the exact same language found in Article II of the Outer Space Treaty, the Moon Treaty expands on this language, establishing that no area on or within the moon, nor resource found therein may become property of any actor.[34] The Moon Treaty takes another step though, under the same Article establishing that this prohibition should be

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[28] *See* Michael J. Listner & Joshua T. Smith, *A Litigator's Guide to the Galaxy: A Look at the Pragmatic Questions for Adjudicating Future Outer Space Disputes*, 23 VAND. J. ENT. & TECH. L. 53, 57–59 (2020).

[29] Outer Space Treaty, *supra* note 13; *see* Listner & Smith, *supra* note 28, at 57–58.

[30] Outer Space Treaty, *supra* note 13.

[31] *See* Wayne N. White, Jr., Presentation at the 40th Colloquium on the Law of Space, *Real Property in Outer Space*, AM. INST. OF AERONAUTICS & ASTRONAUTICS (Oct. 6–10, 1997), http://www.space-settlement-institute.org/Articles/research_library/WayneWhite98-2.pdf.

[32] Brehm, *supra* note 23, at 358.

[33] *See infra* notes 33–34.

[34] Agreement Governing the Activities of States on the Moon and Other Celestial Bodies art. 11, Dec. 5, 1979, 1363 U.N.T.S. 22.

subject to such an international regime as the international community later builds to permit the exploitation of resources on the Moon.[35]

Though its provisions are perhaps more clear, the Moon Treaty ultimately has limited value in determining rights to property in outer space.[36] Broadly speaking, the Moon Treaty does not carry much weight within the international community, some going so far as to say it is not part of international law.[37] Created in 1979, the Moon Treaty remains contentious and to this day has been ratified by only eighteen member states,[38] none of which are capable of self-launched human spaceflight.[39] However, despite its effective failure to bind those states with more active presences in outer space, the Moon Treaty may still provide some insight as to the intentions or meaning of the provisions from the Outer Space Treaty itself.

Outer space activity, and specifically, actors' relationships and rights surrounding land and materials in space are no longer governed solely by international law.[40] In the past decade, as commercial activity has become more achievable, states have begun to pass legislation governing the commercialization of space and ownership of resources.[41] The United States became the first country to offer an independent legal framework for the exploitation of natural resources in space when it passed the U.S. Commercial Space Launch Competitiveness Act (also known as the Spurring Private Aerospace Competitiveness and Entrepreneurship or "SPACE Act of 2015").[42] The SPACE Act of 2015 explicitly grants rights

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[35] *Id.*

[36] *See infra* notes 36–38.

[37] Wasser & Jobes, *supra* note 15, at 42–43.

[38] Comm. on the Peaceful Uses of Outer Space, *supra* note 20, at 2, 10.

[39] *See* Nell Greenfieldboyce, *India Announces Plans for Its First Human Space Mission*, NPR (Jan. 1, 2020, 6:45 PM), https://www.npr.org/2020/01/01/792927666/india-announces-plans-for-its-first-human-space-mission.

[40] *See, e.g.*, U.S. Commercial Space Launch Competitiveness Act, Pub. L. No. 114-90, 129 Stat. 704, 721 (2015) (codified as amended at 51 U.S.C. §§ 51301–303) (governing commercial space resource exploration).

[41] Most states have also enacted a wide variety of laws and regulations which set the standards by which their own materials, vehicles, and personnel are held to. *See, e.g.*, 47 U.S.C. § 761(a)–(b)(1). However, these have little to no influence on the questions of ownership of materials or territory in outer space. This is because the Outer Space Treaty, in part, explicitly states that control and jurisdiction over any objects or personnel sent to space by a party state is retained. Outer Space Treaty, *supra* note 13.

[42] U.S. Commercial Space Launch Competitiveness Act, Pub. L. No. 114-90, 129 Stat. 704, 705 (2015) (codified as amended in scattered sections of 51 U.S.C.).

to "possess, own, transport, use, and sell" outer space resources so long as it is done in accordance with international law.[43] The Act explicitly denied however, any claim or assertion of sovereignty or exclusive rights or jurisdiction over celestial bodies.[44]

Luxembourg followed the United States in 2017 when it enacted law establishing their own framework for how persons would obtain permission from the state to extract outer space resources and how such activity should be supervised.[45] Luxembourg's approach differs from that of the United States in two particular ways. First, where the SPACE Act of 2015 is restrictive in granting only United States citizens or businesses the rights to materials gathered in outer space, Luxembourg's laws permit any European company with a domestic business address to apply for recognition.[46] Second, the Luxembourg law actually establishes a regime for accreditation and licensing for businesses rather than simply granting the right.[47] Luxembourg similarly asserts that such a law does not conflict with international law because it does not permit national appropriation of these resources, but rather, simply asserts that they may be extracted in general.[48]

The above laws, together with the increasing possibility of commercialization, have caused scholars to call into question whether the Outer Space Treaty itself, which remains the main body of law governing outer space, even addresses the possibility of private ownership and property rights in space at all.[49]

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[43] *Id.* at 721.

[44] *Id.* at 722.

[45] *Law of July 20th 2017 on the Exploration and Use of Space Resources*, LUX. SPACE AGENCY, https://space-agency.public.lu/en/agency/legal-framework/law_space_resources_english_translation.html (last updated Nov. 18, 2019).

[46] *Id.*

[47] *Id.*

[48] *Legal Framework*, LUX. SPACE AGENCY, https://space-agency.public.lu/en/agency/legal-framework.html (last updated Mar. 19, 2021).

[49] *See* Dominic Basulto, *How Property Rights in Outer Space May Lead to a Scramble to Exploit the Moon's Resources*, WASH. POST (Nov. 18, 2015), https://www.washingtonpost.com/news/innovations/wp/2015/11/18/how-property-rights-in-outer-space-may-lead-to-a-scramble-to-exploit-the-moons-resources/.

III. CURRENT INTERPRETATIONS

Article II of the Outer Space Treaty has traditionally been the main source of debate in determining who may or may not be permitted property rights in space.[50] In a broad sense, Article II has been interpreted two ways with respect to whether and to what degree it limits private property rights. While scholars differ slightly in their approach, the first, and narrow, interpretation concludes generally that the Outer Space Treaty restricts only appropriation and claims of sovereignty for those states party to the Treaty.[51] Those reading the text broadly, on the other hand, conclude the Treaty should be read to include a prohibition on appropriation, and thus property rights, of all actors, including private actors.[52]

First, scholarship supporting a narrow interpretation of the Outer Space Treaty appears to fall into one of three approaches. One approach suggests the Treaty should be interpreted based on the doctrine of *expression unius est exclusion alterius*, or rather, that where the Treaty does not mention something explicitly, it should be assumed those exclusions were deliberate.[53] This argument suggests that, where the Treaty does not state explicitly that private property, ownership, or appropriation is prohibited, recognition of such ownership could not be in conflict with the Treaty.[54] A second approach suggests that the Outer Space Treaty, while prohibiting claims of territorial sovereignty, does not prohibit the exercise of some form of "functional sovereignty."[55] This "functional" sovereignty would be limited in both time and space to the land and materials used, but only until the activity in question is halted.[56] Under this argument, not only are such claims of sovereignty permitted, but they are effectively recognized under Article VIII of the Treaty.[57] The third group of arguments appears to recognize the inherent friction between laws like the SPACE Act of 2015 and the Outer Space Treaty, but realizing that humanity is already on the precipice of commercializing

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[50] *See* Abigail D. Pershing, Note, *Interpreting the Outer Space Treaty's Non-Appropriation Principle: Customary International Law from 1967 to Today*, 44 YALE J. INT'L L. 149, 152, 165 (2019).

[51] *See, e.g.*, Wasser & Jobes, *supra* note 15, at 44.

[52] *See, e.g.*, Clewley, *supra* note 4, at 358.

[53] Wasser & Jobes, *supra* note 15, at 47.

[54] *Id.*

[55] White, *supra* note 31.

[56] *Id.*

[57] *Id.*

space, tries to reconcile them practically.[58] Similar to the second approach, these arguments suggest there need not be any exercise of sovereignty over territory because there would be no actual ownership of the land.[59] Rather, the private actors seeking to exploit the natural resources in outer space would simply own whatever materials they extracted.[60]

None of these approaches are without merit, certainly. All recognize the metaphorical Klingon in the room, which is to say that humanity's capacity to explore and utilize outer space appears to be far outpacing our preparation as to how to govern such activity.[61] Yet, they all either fail to recognize, or try to avoid, the relationship between property rights and sovereignty and how that relationship affects the interpretation of the Outer Space Treaty.

The first approach to a narrow interpretation of the Treaty fails to recognize the fact that the Outer Space Treaty *does* include non-governmental entities in its prohibition on national appropriation.[62] Article VI of the Treaty specifically includes non-governmental entities and their conduct in outer space within the "national activities" contemplated by the Treaty.[63] While Article VI generally concerns a state's responsibility to authorize and supervise activities in outer space, it reiterates that such private actors must also conform to all provisions of the Treaty.[64]

The second and third approaches, while taking into account the language of Articles VI through VII, attempt to fit a square pin into a circular hole. They both recognize to some extent that under a common law property system, the recognition of property rights inherently conflicts with the prohibition against exercising sovereignty in space.[65] Yet regardless, both attempt to move around this barrier by suggesting either some limited form of sovereignty, which they claim the Treaty does not prohibit, or alternatively, suggesting that sovereignty would not be

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[58] Bennett, *supra* note 21, at 233.

[59] *Id.*

[60] *Id.*

[61] *See id.* at 230–32; Wasser & Jobes, *supra* note 15, at 38–39; White, *supra* note 31.

[62] *See* Wasser & Jobes, *supra* note 15, at 41 (not recognizing the Outer Space Treaty's inclusion of non-governmental entities in its prohibition on national appropriation). *But see* Outer Space Treaty, *supra* note 26 (including non-governmental entities in its prohibition on national appropriation).

[63] Outer Space Treaty, *supra* note 26.

[64] *Id.*

[65] *See* Bennett, *supra* note 21, at 252.

exercised at all specifically when private actors extracted resources from the land.[66] Ultimately, both directly conflict with the Treaty in favor of trying to find a "workable" solution. While it is true that some form of solution is needed in the near future, to accept these arguments would defeat a purpose of the Treaty.

On the other side of the equation are those arguing for a broader interpretation of Article II, or rather, that the prohibition on appropriation in outer space applies not only to state actors party to the Treaty, but to those private actors under their jurisdiction as well.[67] This scholarship asserts that the language of the Outer Space Treaty, properly interpreted, shows a private actor cannot exercise property rights over outer space resources because such rights necessarily require recognition from a sovereign who themselves are prohibited from appropriating such resources.[68]

However, scholarship from this perspective does not appear to have fully explored the question before it. First, it appears limited with respect to the interpretation of terms critical to a finding that the appropriation prohibition includes private actors in its consideration. As stated in the next section, these arguments recognize that seen through the correct interpretive lens, the plain meaning of the "national appropriation" language includes actors under the authority of another sovereign.[69] Yet they either do not account for language used throughout the Treaty, which indicates this term includes such private actors, or they argue the language is not binding on some states.[70] Second, thus far, these arguments have not effectively addressed the Article II question from a more global perspective. As discussed in Part V, not all theories of property rights necessarily require a state grant for property rights to develop.[71] Yet even from this wider perspective, the Outer Space Treaty should still be seen to prohibit such rights both as a result of the practical effect of the Treaty's language and of the practical limitations that still constrain private actors in pursuing commercial space activity.

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[66] *Id.* at 233, 252.

[67] Taylor, *supra* note 15, at 656.

[68] *See* Clewley, *supra* note 3, at 384–86; s*ee also* Taylor, *supra* note 15, at 656–57.

[69] Taylor, *supra* note 15, at 666.

[70] *Id.*

[71] *See id.* at 671; *infra* Part V.

IV. INTERPRETING THE OUTER SPACE TREATY

Treaty interpretation in general is largely guided by the 1969 Vienna Convention on the Law of Treaties ("Vienna Convention").[72] Nearly every state with a significant presence in space has ratified the treaty.[73] And while one major player, the United States, is only a signatory and has not ratified the Vienna Convention, it recognizes the Vienna Convention as "a codification of customary international law," and courts have routinely applied the Vienna Convention's standards of interpretation.[74] Thus, these courts effectively recognize the Treaty's provisions as binding, regardless of whether a state is party to the Treaty or not.[75] The Vienna Convention provides three methods of treaty interpretation: the textualist, teleological, and intentionalist approaches.[76] The Vienna Convention prioritizes a textualist reading first and foremost, relying on the latter two methods to inform its terms meanings as a supplement or when the resulting interpretation is obscure, absurd, or unreasonable.[77] As the following shows, the textualist and teleological approaches as taken from Article 31,[78] and the intentionalist approach as found in Article 32 of the Vienna Convention,[79] all lend themselves toward a broad interpretation of Article II of the Outer Space Treaty.

A. Vienna Convention Article 31 Interpretation

The general rule of interpretations under the Vienna Convention begins with the standard that "[a] treaty shall be interpreted in good faith

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[72] *See* Vienna Convention on the Law of Treaties, May 23, 1969, 1155 U.N.T.S. 331.

[73] *See Vienna Convention on the Law of Treaties*, UNITED NATIONS TREATY COLLECTION, https://treaties.un.org/Pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXIII-1&chapter=23&Temp=mtdsg3&clang=_en, (last visited July 15, 2021).

[74] *See* Roger P. Alford, *Bond and the Vienna Rules*, 90 NOTRE DAME L. REV. 1561 (2015); *see also* Chubb & Son, Inc. v. Asiana Airlines, 214 F.3d 301, 308 (2d Cir. 2000); Fujitsu Ltd. v. Fed. Express Corp., 247 F.3d 423, 433 (2d Cir. 2001).

[75] Evan Criddle, *The Vienna Convention on the Law of Treaties in U.S. Treaty Interpretation*, 44 VA. J. INT'L L. 431, 434 (2004); *see also* Taylor, *supra* note 15, at 665.

[76] Vienna Convention on the Law of Treaties art. 31, May 23, 1969, 1155 U.N.T.S. 331; *see also General Principles of International Law*, INT'L JUD. MONITOR, http://www.judicialmonitor.org/archive_0906/generalprinciples.html (last visited Aug. 21, 2021).

[77] Taylor, *supra* note 15, at 667; *see also* David S. Jonas & Thomas N. Saunders, *The Object and Purpose of a Treaty: Three Interpretive Methods*, 43 VAND. J. TRANSNAT'L L. 565, 578 (2010).

[78] *General Principles of International Law*, *supra* note 76.

[79] *Id.*

in accordance with the ordinary meaning to be given to the terms of the treaty and in their context and in the light of its object and purpose."[80] To interpret "in accordance with the ordinary meaning" of the Treaty's terms is where the textualist approach originates from.[81] It reasons generally that "there must exist a presumption that the intentions of the parties are reflected in the text of the treaty which they have drawn up, and that the primary goal of treaty interpretation is to ascertain the meaning of this text."[82]

The portion of Article II most critical to the question of property rights in space states that outer space is "not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."[83] The source of disagreement in interpreting this provision stems most often from the term "national appropriation." An essential element of the argument for the broad interpretation of Article II, previous scholarship shows that the use of the term "national," in its ordinary meaning, includes appropriation by an individual when done under the authority of a sovereign.[84] Yet the text of the Treaty goes further to support this argument. Article VI of the Outer Space Treaty, in assigning responsibility for conduct in outer space, states that "State Parties to the Treaty shall bear international responsibility for *national activities* in outer space."[85] Article VI goes on to explain that "national activities" are not only those conducted by governmental agencies, but also all those undertaken by non-governmental entities.[86] Thus, not only does the plain meaning of the term "national appropriation" indicate inclusion of non-state actors, but the text of the Treaty itself in similar provisions explicitly indicates the "national" language was not meant to refer exclusively to those states party to the Treaty.[87]

It has been argued, however, that Article VI is not self-executing and so, in and of itself, does not bind private actors in states such as the United States to the same limits as state parties to the Treaty.[88] In *Medellin v. Texas*, the United States Supreme Court determined its standard as to

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[80] Vienna Convention on the Law of Treaties, *supra* note 76.

[81] *General Principles of International Law*, *supra* note 76.

[82] Jonas & Saunders, *supra* note 77, at 577.

[83] Outer Space Treaty, *supra* note 22.

[84] Taylor, *supra* note 15, at 666.

[85] Outer Space Treaty, *supra* note 27 (emphasis added).

[86] *Id.*

[87] *See* Outer Space Treaty, *supra* note 22; Outer Space Treaty, *supra* note 26.

[88] Clewley, *supra* note 4, at 388–89.

whether a treaty is determined to be self-executing or not, which provides a useful tool for the present analysis.[89] While this decision is not binding on other states, the heavy involvement and influence of the United States in outer space activity means, at the very least, that the Court's interpretation will have a substantial effect on the activities of private actors in outer space.[90] Under *Medellin v. Texas*, the United States Supreme Court found that "a treaty is equivalent to an act of the legislature, and hence, self-executing, when it operates of itself without the aid of any legislative provision."[91] Thus, it is argued that Article VI is not self-executing because of its provision that non-governmental entities "require authorization and continuing supervision by the appropriate State Party to the Treaty."[92] Such authorization admittedly does require action on the part of the legislature to survive, and means that this provision itself may not be enforceable against private actors.[93] In response, though, it is first important to note that the first sentence of Article VI requires no legislative action.[94] It simply lays out, in part, that state actors are responsible for "assuring that national activities are carried out in conformity with the provisions set forth in the Treaty."[95] Where those "national activities" include the activity of private actors, and this provision requires no additional action by the legislature, this provision is arguably self-executing. Yet, even were the entirety of Article VI not self-executing, and thus not directly binding on private actors, this article shows that the Treaty itself explicitly considers the activities of non-governmental entities to be included under the umbrella language of national activities.[96] So, strictly as matter of interpretation, the prohibition on national appropriation should be considered to restrict private actors as well.

Article 31 of the Vienna Convention does not stop at the plain meaning of the Treaty's terms, however, and further requires an interpretation to consider the Treaty's terms "in their context and in the

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[89] *See* Medellin v. Texas, 552 U.S. 491, 504–506 (2008).

[90] *See id.* at 489–99 (holding treaty sources do not create binding federal law that preempts state laws); *see also* Benjamin Perlman, *Grounding U.S. Commercial Space Regulation in the Constitution*, 100 GEO. L.J. 929, 953 (2012).

[91] *Medellin*, 552 U.S. at 505.

[92] Outer Space Treaty, *supra* note 26.

[93] Clewley, *supra* note 4, at 389.

[94] Outer Space Treaty, *supra* note 26.

[95] *Id.*

[96] *Id.*

light of its object and purpose."[97] Authors David S. Jonas and Thomas N. Saunders assert this addition serves to refer broadly to the Treaty's "goals and the character of the means employed to achieve them."[98]

This is certainly not the first article to contemplate the context surrounding the passing of the Outer Space Treaty,[99] but ultimately the context under which it was passed offers less guidance than the Treaty's object and purpose. As others have noted, in 1967 when the Treaty was entered into force, the United States and Soviet Union remained locked in the Cold War mentality.[100] Fear of the potential of using space to deliver nuclear weapons or for other military means very clearly played a role in prompting the Treaty's creation.[101] This is explicitly reflected in Article IV's prohibition of placing any objects with nuclear weapons in outer space.[102] The argument then follows that the context in which the Treaty was passed shows its purpose was primarily to prevent escalation of nuclear war between the rival powers. Because, the only actors with the capability to utilize outer space in this way were states, so the Treaty must have only been intended to apply to state actors.[103] This argument fails, however, upon analysis of the goals of the Treaty overall when taken with the text itself.

While the nuclear arms provision in Article IV certainly shows one goal of the Outer Space Treaty, the overwhelming majority of the Treaty dedicates itself to promoting use, exploration, and cooperation in outer space. The preface to the Treaty itself states in multiple places a desire for progress in, and development of the means for, the use and exploration of outer space, not once referring to the need to protect it from military buildup.[104] Articles I, III, IX, X, XI, and XIII all include the words "use" and "exploration" in crafting the goals of each individual provision.[105]

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[97] Vienna Convention on the Law of Treaties, *supra* note 76.

[98] Jonas & Saunders, *supra* note 77, at 580.

[99] *See, e.g.*, Taylor, *supra* note 15, at 659; Matthew T. Smith, Note, *One Small Plot for a Man, or One Giant Easement for Mankind?*, 2020 U. ILL. L. REV. 1361, 1367–68.

[100] Smith, *supra* note 99, at 1367.

[101] Jason Krause, *The Outer Space Treaty Turns 50. Can It Survive a New Space Race?*, A.B.A. J. (Apr. 1, 2017, 5:00 AM), https://www.abajournal.com/magazine/article/outer_space_treaty.

[102] Outer Space Treaty art. IV, Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205.

[103] *See generally* Outer Space Treaty, *supra* note 5.

[104] *See id.*

[105] Outer Space Treaty art. I, III, IX, X, XI & XIII, Jan. 27, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205.

Regardless of what may have originally prompted bringing the Treaty to the table, the text of the Outer Space Treaty heavily favors a finding that the goals of the treaty in regulating the general use of outer space and the methods provided to achieve them became the primary object and purpose of the document.

B. Vienna Convention Article 32 Interpretation

If Article 31 does not serve to provide a reasonable meaning of the Treaty's terms, then Article 32 of the Vienna Convention permits interpretation to extend toward the intent of the drafters.[106] Specifically, Article 32 provides that "[r]ecourse may be had to supplementary means of interpretation, including the preparatory work of the treaty and the circumstances of its conclusion, in order to confirm the meaning resulting from the application of [A]rticle 31. . . ."[107] Article 32 also permits the use of these sources to determine meaning independently when Article 31 either "leaves the meaning ambiguous or obscure" or "leads to a result which is manifestly absurd or unreasonable."[108]

As explained above, there should be little doubt that the ordinary meaning of the various provisions of the Outer Space Treaty provide a reasonable and clear interpretation of the meaning of Article II's prohibition on appropriation. However, even if we look to Article 32 of the Vienna Convention to "confirm the meaning resulting from the application of Article 31," it should be seen that the intentions of the drafters were to include all forms of appropriation.[109] Looking to the previous versions and preparatory documents used in arriving at the current version of the Outer Space Treaty, we can see the same trends in terms of the intended purpose of the Treaty as the Treaty now displays itself.[110] Though beginning as a resolution aimed at preventing certain means of war and mass destruction, the resolution quickly evolved to take on a heavier focus on promoting the peaceful use and exploration of outer space.[111]

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[106] Vienna Convention on the Law of Treaties art. 32, May 23, 1969, 1155 U.N.T.S. 331.

[107] *Id.*

[108] *Id.*

[109] *Id.*; Taylor, *supra* note 15, at 656–57.

[110] Taylor, *supra* note 15, at 667–68.

[111] *Id.* at 667.

As a matter of interpretation, it should thus be seen that whether one looks at the plain meaning, the purpose of its provisions, or the intentions of the drafters, the correct result is a broad interpretation of Article II. However, given the widespread disagreement amid the scholarship on this question of Article II interpretation, the distinct possibility remains that the international community may instead adopt the narrow view of its language.[112] Yet even still, if Article II's national appropriation language is accepted as not *directly* prohibiting appropriation of land and resources by private actors, for the following reasons, such activity should still be considered a breach of the Outer Space Treaty.

V. COMMON VS. CIVIL LAW AND HOW BOTH FAIL TO EFFECTIVELY ESTABLISH A BASIS FOR PROPERTY RIGHTS

The inherent novelty of the use and exploration of outer space brings with it challenges that have required, and will continue to require, a constantly adapting approach. This is seen clearly in the gradual shift of activity in space from public to private sectors.[113] Early space flight, of course, consisted entirely of state-run programs beginning with the launch of Sputnik 1 into Earth's orbit by the Soviet Union in 1957.[114] As addressed above, though, private actors have shown a remarkable shift in interest to the point that projects like the International Space Station are now supplied, in part, by private companies like SpaceX.[115] Private companies also have a multitude of satellites in orbit around Earth,[116] have conducted manned sub-orbital missions,[117] and now transport astronauts

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[112] *See* White, *supra* note 31.

[113] *See* Clewley, *supra* note 4, at 354–57, 373–76.

[114] *Sputnik 1*, NASA, https://nssdc.gsfc.nasa.gov/nmc/spacecraft/display.action?id=1957-001B (last visited Sept. 1, 2021).

[115] Cheryl Warner & Dan Huot, *U.S. Cargo Ship Set to Depart from International Space Station*, NASA (Sept. 11, 2017), https://www.nasa.gov/press-release/us-cargo-ship-set-to-depart-from-international-space-station.

[116] Michael Sheetz, *Satellite Imagery Company Planet Labs Is Going Public, Backed by Google, BlackRock and Marc Benioff*, CNBC (July 7, 2021, 6:00 AM), https://www.cnbc.com/2021/07/07/space-co-planet-labs-going-public-backed-by-google-blackrock-benioff.html.

[117] *SpaceShipOne Makes History: First Private Manned Mission to Space*, SCI. DAILY (June 22, 2004), https://www.sciencedaily.com/releases/2004/06/040622014010.htm.

to the ISS.[118] This says nothing of the plans various companies have to land on and extract resources from asteroids or otherwise utilize other celestial bodies.[119]

It would be a mistake, however, to assume that these private actors function independently from the same states that began this journey, or even that they are able to do so. As of today, the companies conducting much of this activity in space find funding in large part through contracts with NASA or other governmental agencies, and until more sustainable industries are established, commercial space activity will continue to rely on jobs from these governmental agencies.[120] Additionally, when one wishes to launch an object into space, it utilizes facilities owned and operated by state agencies.[121] It is worth noting that SpaceX, among its various projects, has achieved its goal of landing reusable rockets at sea rather than at its original launch facilities.[122] Yet even were it possible to launch and land vehicles outside of the territorial control of a state, SpaceX and its fellow commercial space companies remain organized under the laws of their country of residence or origin, and are supervised and regulated by those same states.[123]

There is no question that the Outer Space Treaty regulates state actors. But, even under a narrow reading of Article II, obligations under the Treaty in relation to private actors effectively still require states to act

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[118] Tom Giovanetti, *The First Manned SpaceFlight by a Private Company*, INST. POL'Y INNOVATION (May 26, 2020), https://www.ipi.org/ipi_issues/detail/the-first-manned-spaceflight-by-a-private-company.

[119] *See* Wall, *supra* note 12.

[120] *See Why Do We Need NASA When We Have SpaceX?*, PLANETARY SOC'Y (Nov. 12, 2020), https://www.planetary.org/articles/nasa-versus-spacex; *see also Herschel/Planck: 10 Years Later...*, THALES (May 14, 2019), https://www.thalesgroup.com/en/worldwide/space/news/herschelplanck-10-years-later.

[121] While spaceports have been built for the sole purpose of commercial spaceflight rather than for governmental use, these facilities remain owned and operated by state parties. *See Frequently Asked Questions*, SPACEPORT AM., https://www.spaceportamerica.com/faq/ (last visited Aug. 21, 2021).

[122] Eric Berger, *SpaceX Landed a Rocket on a Boat Five Years Ago—It Changed Everything*, ARSTECHNICA (Apr. 8, 2021, 8:34 AM), https://arstechnica.com/science/2021/04/spacex-landed-a-rocket-on-a-boat-five-years-ago-it-changed-everything/.

[123] *See* Cristian van Eijk, *Sorry, Elon: Mars Is Not a Legal Vacuum—And It's Not Yours, Either*, VOELKERRECHTSBLOG (May 11, 2020), https://voelkerrechtsblog.org/sorry-elon-mars-is-not-a-legal-vacuum-and-its-not-yours-either/.

as a sovereign over the land and materials used by those private actors. It should also be seen that the interdependent relationship between state and private actors in efforts to use and explore outer space further supports the conclusion that private appropriation results in a breach of the Outer Space Treaty. Because, as a result of this interdependence, for a private actor to exercise ownership over territory or resources in outer space, the governing state must, by necessity, still exercise sovereignty over the same.

Previous scholarship has touched briefly on this subject,[124] but appears not to gaze at the full picture. Ownership and property rights do not consist of one homogenous theory of relationships to land and things, and the origin of such rights differs depending on what theory is used.[125] Additionally, given the inherent international nature of outer space law and the development of property rights therein, it would be impractical and unhelpful to base any analysis solely on one concept of property rights. While some scholars argue that the gaps between common law and civil law systems with regard to property rights are smaller than they appear at first glance,[126] the two necessarily differ with regard to where property rights originate in the first place. The following thus demonstrates how under both, the Outer Space Treaty, in effect, still indirectly prohibits private appropriation.

A. Common Law Theory of Property

Under a common law system, property rights are deeply tied to the concept of sovereignty.[127] It is well documented that common law theory of title traces back to practices under feudal law in which the Crown holds title to land, and private or individual rights are granted through the relationship between that individual and the sovereign.[128] Effectively,

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[124] *See* Lorenzo Gradoni, *What on Earth Is Happening to Space Law?*, EUR. J. INT'L L: EJIL:TALK! (July 31, 2018), https://www.ejiltalk.org/what-on-earth-is-happening-to-space-law-a-new-space-law-for-a-new-space-race/.

[125] *See* Sukhninder Panesar, *Theories of Private Property in Modern Property Law*, 15 DENNING L.J. 113, 113 (2000).

[126] *See* Yun-chien Chang & Henry E. Smith, *An Economic Analysis of Civil Versus Common Law Property*, 88 NOTRE DAME L. REV. 1, 6 (2012).

[127] *See* White, *supra* note 31.

[128] *Id.*

proprietary rights generally cannot exist without a sovereign to grant those rights and hold the grantee to their responsibilities to the property.[129]

Applied to the problem at hand, it is not difficult to see where a strain on developing property rights in outer space begins. Where Article II of the Outer Space Treaty explicitly states that "national appropriation by claim of sovereignty" cannot stand in outer space, there is little to no doubt that states party to the Treaty are barred from exercising full control over these areas.[130] Where a state cannot claim to be sovereign, then under this theory of property rights, presumably there is no means by which a private actor could develop proprietary rights to an area or object.[131]

None of the arguments in favor of a narrow interpretation of the Treaty set out in Part III effectively address this. The first argument, concerning the lack of explicit mention of private actors, we need not address here as our interpretation of Article II's national appropriation language makes clear that private actors were included in that prohibition. As for the other two arguments, which both argued for some form of limited exercise of sovereignty, each fail here for similar reasons. The first, as asserted by Attorney Wayne White, makes a valid point that some measure of ownership presently exists under the Outer Space Treaty.[132] The Outer Space Treaty *does* permit states to retain control and jurisdiction over objects and personnel launched into space through Article VIII.[133] Yet, that the Treaty permits exercising sovereignty in particular circumstances, but forbids it in all others, is neither self-defeating, nor an indication that other such permissible situations exist.[134] To make such a claim would be roughly equivalent to arguing that self-defense as a defense to murder is either self-defeating or suggestive that other conditions exist in which murder is permissible. Thus, the broad prohibition on national appropriation survives in regard to any potential property not physically sent to space by the state party, which Article VIII does not contemplate.[135]

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[129] *See* Felix S. Cohen, *Dialogue on Private Property*, 9 RUTGERS L. REV. 357, 371–72 (1954); Jeremy Bentham,

Principles of the Civil Code, *in* THEORY OF LEGISLATION, at 176 (Richard Hildreth trans., 1908).

[130] Outer Space Treaty, *supra* note 22.

[131] *See* Wasser & Jobes, *supra* note 15, at 48.

[132] *See* White, *supra* note 31.

[133] Outer Space Treaty, *supra* note 13.

[134] *See* Outer Space Treaty, *supra* note 5.

[135] *See* Outer Space Treaty, *supra* note 13.

B. Civil Law Theory of Property

Where previous literature has discussed outer space property rights more thoroughly within the context of a common law theory of property, scholarship is comparatively sparse with regards to civil law theory. Within this context, an interesting question occurs, though, because the reasoning for why private property rights cannot be created under a common law theory of property no longer applies.[136] Under civil law, property rights generally derive from the natural law theory of *pedis possession*, meaning "use and occupation."[137] This concept is explained well in John Locke's *Two Treatises of Government* in which he wrote "[a]s much Land as a Man Tills, Plants, Improves, Cultivates, and can use the Product of, so much is his Property."[138] Thus, property and ownership may exist entirely separated from the existence of a sovereign. Ownership under this theory flows not from the sovereign itself, but from the use of the land.[139] As a result, some scholars have argued that the same limitations on appropriation of outer space land and resources do not restrict private actors existing in states which operate by this principle.[140]

Think, for example, of a hypothetical company called Lunar Hospitality headquartered in France. Lunar Hospitality plans to launch a group of settlers into space to construct and inhabit a new permanent resort on the moon that will go on to host tourists seeking the unique experience of spending a night living on the surface of another planet. On entering space, and indeed at any point in their journey or return, the state where they are headquartered would retain control and jurisdiction over the spacecraft and individuals sent, this much we know from Article VIII of the Outer Space Treaty.[141] When Lunar Hospitality finishes construction and begins its business, France would be prohibited however, from exercising territorial sovereignty over the space which they inhabit. Under civil law, though, France technically need not exercise sovereignty for Lunar Hospitality to develop rights to that land; France must only recognize those rights.[142] Under this Lockean view, Lunar Hospitality

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[136] *See* Wasser & Jobes, *supra* note 15, at 48–50.

[137] *Id.* at 49.

[138] JOHN LOCKE, TWO TREATISES OF GOVERNMENT 113 (Ian Shapiro ed., Yale Univ. Press 2003) (1689).

[139] Wasser & Jobes, *supra* note 15, at 50.

[140] *Id.* at 49–50.

[141] Outer Space Treaty, *supra* note 13.

[142] *See* Richard A. Epstein, International News Service v. Associated Press*: Custom and Law as Sources of Property Rights in News*, 78 VA. L. REV. 85, 85 (1992).

would develop property rights on their own as they continue to occupy that particular portion of the Moon and expand to make use of the land around it.

There are two general flaws in this line of thinking. First, even assuming Article II is not interpreted to directly prohibit private appropriation of land or resources, two other provisions in the Outer Space Treaty lead to the conclusion that for such a scenario to happen, the governing state must exercise sovereignty over the same land.[143] Article VI, in establishing that the state party must maintain responsibility for non-governmental entities and ensure their activity conforms to the Treaty, would require France in our hypothetical to supervise Lunar Hospitality and penalize them if, in the course of business, they violated another portion of the Treaty or international law.[144] Article VII establishes that France, as the state party from whose facility the spacecraft was launched, would be liable for any damages caused to others as a result of Lunar Hospitality's presence on the Moon.[145] These kinds of control over a person or place are effectively indistinguishable from an exercise of sovereign power. France must exercise control over the land occupied by the resort to an extent that it can be assured no violation is occurring, and if a violation does occur, France must exercise its authority to restrict such activity. Additionally, if a citizen of the United States were to make use of Lunar Hospitality's services but become injured as a result of a defect in the resort, France would be liable for those injuries.

Second, as a practical matter, France would be exercising sovereignty over the land and resources used by Lunar Hospitality as both the governing state and state party to the Outer Space Treaty. Lunar Hospitality, in building its business on Earth, would be governed by the commercial law of France. In launching its spacecraft, it would use a French spaceport to reach the Moon.[146] The standards by which the construction of the resort would be governed would be those of France, and the labor laws of the country would still control the personnel working at the resort. Even if we were to assume that Lunar Hospitality had the financial resources to construct and utilize its own launch facility outside

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[143] Outer Space Treaty, *supra* notes 26–27.

[144] *See* Outer Space Treaty, *supra* note 26.

[145] *See* Outer Space Treaty, *supra* note 27.

[146] Admittedly, a company might make use of another state's launch facilities, but said state would then be bound by the Outer Space Treaty as a "State Party from whose territory or facility an object is launched" and would itself then be exercising a level of sovereignty for similar reasons. *Id.*

the territory of any state party to the Treaty, it would need to be in constant contact with one state or another to acquire the resources necessary to feed and maintain the resort. In this scenario, a state party may claim that, while it is true that they maintain control over the resort and personnel therein, they do not claim control or sovereignty over the space that it occupies. However, the extent to which that state party may control that space as a result of this permanent facility is, in the end, barely distinguishable from the ability to exercise an ultimate and independent authority that makes up territorial sovereignty.

In the end, regardless of whether a state or culture has built their concept of property as rights and relationships granted by a sovereign, or as one under which the use and occupation of land creates rights and responsibilities, the effect is still the same. Under both, states have forfeited their claims to sovereignty and as a result, neither the state party to the Treaty, nor the private actors within their jurisdiction, may claim ownership of land or resources in outer space, absent some additional provision granted pursuant to the Outer Space Treaty itself.

VI. CONCLUSION

The time is quickly approaching at which humanity will be able to effectively make use of and explore space previously entirely beyond our reach. As proven by the passage of the Space Act of 2015 and similar legislation, it is clear that states are ready to build a regime by which those opportunities are enabled and regulated.[147] However, in passing such legislation, these states are going beyond the limits of what is permitted under the controlling international law in the Outer Space Treaty. Under a correct interpretation of the Treaty's own terms, Article II prohibits appropriation by private actors, and thus development of property rights not otherwise entertained by the Treaty. Furthermore, even were Article II to be interpreted narrowly, and thus not directly prohibitive of appropriation by private actors, such activity would still breach the Outer Space Treaty. Whether property rights are granted by a sovereign or developed through use and occupation of the land or material in question, development of such rights in outer space at this time depends so closely on the support of state actors, and is contemplated by the Outer Space

[147] *See* U.S. Commercial Space Launch Competitiveness Act, Pub. L. No. 114-90, 129 Stat. 704, 721–22 (2015) (codified as amended in scattered sections of 51 U.S.C.); *see also Law of July 20th 2017 on the Exploration and Use of Space Resources*, *supra* note 45.

Treaty in such a way that private appropriation of land or resources in outer space requires an exercise of sovereignty.

While the means and methods by which the international regime should change to accommodate and regulate these new developments are beyond the scope of this article, it is clear that a change is sorely needed. Some argue the best solution is to amend the Outer Space Treaty to make way for promotion and regulation of the use and exploration of outer space by each individual state.[148] If this is the case, the possibilities may open up to solutions provided by those arguing for a narrow interpretation of Article II. For example, states might turn to the concept of shared governance as was proposed for the Spitzbergen Islands when multiple countries asserted conflicting claims.[149] The Treaty might otherwise be amended to allow for an international regime to assign rights and regulate the use of celestial bodies.[150] A licensing agency comparable to the Alaska Permanent Fund is but one such possibility.[151]

Regardless of the path taken, however, that direction must be determined soon, because the effect of the international community failing to facilitate these changing circumstances is twofold. In one scenario, the current Outer Space Treaty continues to effectively govern and prohibit the acquisition of land and resources in outer space, stifling humanity's progress among the stars. In the alternative, spacefaring nations maintain their current course and continue to pass their own legislation permitting private actors to exercise rights over land and materials in conflict with the Outer Space Treaty, thus progressively rendering the Treaty ineffective and its worthy aspirations unfulfilled.

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[148] Clewley, *supra* note 4, at 391–93.

[149] *See* White, *supra* note 31.

[150] *See* Sutherland, *supra* note 16, at 119–20.

[151] *Id.* at 125–27.