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The Future Is Today: Preparing the Legal Ground for the United States Space Force

Clayton J. Schmitt

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The Future Is Today: Preparing the Legal Ground for the United States Space Force

CLAYTON J. SCHMITT*

The Space Race officially launched on October 4, 1957, when the Soviet Union placed Sputnik I, the first man-made satellite, into Earth's orbit. The United States fired back four months later, on January 31, 1958, by launching its own satellite, Explorer I. While both superpowers' programs facially focused on scientific research, each was funded and directed by their respective militaries. Military functions in space followed shortly, with the United States beginning to place its first reconnaissance satellites in space in 1959 as part of the Corona program. American and Soviet discussions following these initial military developments eventually led to the adoption of the Outer Space Treaty of 1967, which severely restricted the types of military activities the two powers could conduct either in orbit or in the greater reaches of space. The United States has recently created a new military branch exclusively focused on space. This new branch—the Space Force—will be greatly restricted by those early treaties.

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INTRODUCTION

The United States created a new military branch for the first time in seventy-two years on December 20, 2019—the United States Space Force (“Space Force”).¹ Officially established as a sub-department of the United States Air Force (“Air Force”), the Space Force has the potential to radically alter the United States’ military

¹ United States Space Force Act, 10 U.S.C. §§ 9081–83 (as enacted by the President, Dec. 20, 2019). Title 10 of the United States Code was amended to authorize the Space Force by the passage of the Fiscal Year 2020 National Defense Authorization Act, signed into law by President Trump on Dec. 20, 2019. National Defense Authorization Act for Fiscal Year 2020, S.1790, 116th Cong. (2019) (enacted).

focus.² The ultimate capabilities of this new force, however, are unsettled: this new branch can include powerful new warfighting abilities or instead merely amount to a reshuffling of already existing military units and other Department of Defense organizations. Under the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, better known as the Outer Space Treaty of 1967 (“Outer Space Treaty”), certain military capabilities are seriously restricted in space.³ Part I of this Note will discuss the current legal restrictions on military activities, both from the Outer Space Treaty and other sources of international law. Part II will discuss modern military capabilities as they relate to those restrictions. Part III, then, will discuss the structure of the new Space Force and what capabilities the branch could provide if the United States were to withdraw from the Outer Space Treaty. Part IV will explore the legal methods of treaty enforcement and treaty withdrawal, as well as the possible legal and geopolitical repercussions the United States must consider in balancing the decision to potentially withdraw from the Outer Space Treaty. Finally, this Note will conclude by confirming that if the Space Force is to truly be a capable and coequal branch of the military, the United States must withdraw from the Outer Space Treaty and commit to making this new branch the home of unique military capabilities previously unrealized in any other branch of service. The United States will likely have to fight an armed conflict in space⁴ and must be prepared for such a possibility. So long as the United States remains a party to the Outer Space Treaty, however, the Space Force will not be able to fully utilize the powerful new military capabilities that space can offer.

² Secretary of the Air Force Public Affairs, *With the Stroke of a Pen, U.S. Space Force Becomes a Reality*, U.S. AIR FORCE (Dec. 20, 2019), <https://www.af.mil/News/Article-Display/Article/2046061/with-the-stroke-of-a-pen-us-space-force-becomes-a-reality/>.

³ 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].

⁴ Michael N. Schmitt, *International Law and Military Operations in Space*, 10 MAX PLANCK YEARBOOK UNITED NATIONS L. 89, 125 (2006).

I. INTERNATIONAL RESTRICTIONS ON MILITARY ACTIONS IN SPACE

This Part will provide an in-depth analysis of the international legal restrictions on military action in space. It will begin with a brief overview of the many different international agreements that govern space. Next, it will examine each of the provisions of the Outer Space Treaty that govern military actions and explore the extent of the constraints they establish on military activity. Finally, it will close with a discussion of other international law that affects military action in space, especially the Law of Armed Conflict (“LOAC”).

While the Outer Space Treaty remains the single most impactful international agreement on both military and other uses of space, several other treaties and LOAC also play a role in limiting extraterrestrial military activity.⁵ The Outer Space Treaty itself covers a variety of topics, although it focuses primarily on two concerns: the military use of space⁶ and national claims to possession of celestial bodies (which it explicitly prohibits under Article II).⁷ The Articles covering military use of space will be discussed in Section I.B, *infra*. Commentators generally understand that many of the Outer Space Treaty’s provisions are also addressed by other treaties relevant to military activities in space, such as the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space of 1968 (“Rescue and Return Agreement”).⁸ These Treaties will be discussed in Section I.C, *infra*, along with LOAC and its effects on military actions in space.

⁵ Ryan Esparza, *Event Horizon: Examining Military and Weaponization Issues in Space By Utilizing the Outer Space Treaty and the Law of Armed Conflict*, 83 J. AIR. L. & COM. 333, 339 (2018); Robert A. Ramey, *Armed Conflict on the Final Frontier: The Law of War in Space*, 48 A.F. L. REV. 1, 99–119 (2000) (listing various agreements that limit military activity in outer space).

⁶ See Outer Space Treaty, *supra* note 3, arts. IV, IX, X–XII.

⁷ *Id.* art. II.

⁸ See 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 [hereinafter Rescue and Return Agreement]; see also Ramey, *supra* note 5, at 87.

A. *The Outer Space Treaty of 1967*

The Outer Space Treaty developed from the early space race between the United States and the Soviet Union,⁹ and its provisions resemble a similar non-armament treaty: the Antarctic Treaty.¹⁰ The United States and Soviet Union signed the Outer Space Treaty in early 1967; it took effect later that same year.¹¹ Today, 123 nations are signatories to the Outer Space Treaty.¹²

The Outer Space Treaty's primary restrictions on extraterrestrial military activity come from Article IV.¹³ First, it prohibits any signatory nations from "plac[ing] in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction."¹⁴ It similarly prohibits nations from "instal[ling] such weapons on celestial bodies, or station[ing] such weapons in outer space in any other manner."¹⁵ Article IV then forbids "establishment of military bases, installations and fortifications, the testing . . . of weapons and the conduct of military maneuvers on celestial bodies."¹⁶ Article IV does, however, allow the participation of military personnel in scientific research for "peaceful purposes" and "peaceful exploration" of celestial bodies.¹⁷ Nowhere does the Outer Space Treaty define what it intends to mean by peaceful purposes or peaceful exploration.¹⁸ Article IV's restrictions are short but impactful.

⁹ Loren Grush, *How an International Treaty Signed 50 Years Ago Became the Backbone for Space Law*, VERGE (Jan. 27, 2017, 11:14 AM), <https://www.theverge.com/2017/1/27/14398492/outer-space-treaty-50-anniversary-exploration-guidelines>.

¹⁰ Compare The Antarctic Treaty, Dec. 1, 1959, 402 U.N.T.S. 71 (entered into force June 23, 1961), with Outer Space Treaty, *supra* note 3; see also Ramey, *supra* note 5, at 106–08.

¹¹ Outer Space Treaty, *supra* note 3.

¹² *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies*, UNITED NATIONS TREATY COLLECTION, <https://treaties.un.org/Pages/showDetails.aspx?objid=0800000280128cbd> (last visited Dec. 27, 2019) [hereinafter *UN Information Page on the Outer Space Treaty*].

¹³ Outer Space Treaty, *supra* note 3, art. IV.

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ See generally *id.*; see also Ramey, *supra* note 5, at 78–79.

Many legal and military commentators have reflected on the restrictions the Article places on military actions in space.¹⁹ Specific impacts will be discussed in Part II, *infra*, but suffice it to say simply that both military action and emplacements in orbit and beyond Earth are severely limited by the Outer Space Treaty.²⁰

These restrictions are also significant in what they do not prevent: the placement or utilization of military forces or bases in deep space or in orbit around other celestial bodies.²¹ Other commentators, however, have suggested that such activities are “implicitly prohibited” by other provisions of the Outer Space Treaty as well as separate provisions of the United Nations Charter that regulate use of force by nations.²² Curiously, such an analysis misses the fact that prohibitions on use of force would not prevent the stationing of military forces or facilities in deep space or in orbit around other planets or celestial bodies. However, such activities surely remain far in the future and will be discussed minimally in this Note.

Articles IX through XII place different restrictions on military activities in space: instead of explicitly prohibiting certain conduct, they require affirmative disclosures of certain activities by the conducting nations.²³ Article IX requires that states seek “consultations” with other parties to the Outer Space Treaty before conducting activities that could “cause potentially harmful interference with activities of other [parties].”²⁴ Article IX also allows nations party to the treaty to request such consultations from other parties based

¹⁹ *E.g.*, Esparza, *supra* note 5, at 341–42; Blair Stevenson Kuplic, *The Weaponization of Outer Space: Preventing an Extraterrestrial Arms Race*, 39 N.C. J. INT'L L. & COM. REG. 1123, 1144–47 (2014); Christopher M. Petras, “Space Force Alpha”: Military Use of the International Space Station and the Concept of “Peaceful Purposes”, 53 AIR FORCE L. REV. 135, 157–61 (2002); Ramey, *supra* note 5, at 78–85; Arjen Vermeer, *A Legal Exploration of Force Application in Outer Space*, 46 MIL. L. & L. WAR REV. 299, 307–13 (2007); Rex J. Zedalis & Catherine L. Wade, Note, *Anti-Satellite Weapons and the Outer Space Treaty of 1967*, 8 CAL. WESTERN INT'L L.J. 454, 459–61 (1978). Generally, these reviews agree on the legality of most military activity in space under the treaty, although some distinctions will be discussed in Part II, *infra*.

²⁰ *E.g.*, Esparza, *supra* note 5, at 341–42.

²¹ Outer Space Treaty, *supra* note 3, art. IV.

²² Ramey, *supra* note 5, at 82.

²³ Outer Space Treaty, *supra* note 3, arts. IX–XII.

²⁴ *Id.* art. IX.

on the “reason to believe” the other parties’ actions could create interference.²⁵ Article X requires nations to “consider . . . any requests” made by other treaty parties to view the launch of any objects into space (although it does not actually require states to allow the suggested observation).²⁶ Article XI requires parties to inform the United Nations (“UN”) and the public about any “activities in outer space . . . to the greatest extent feasible and practicable.”²⁷ Article XI even goes so far as to require the disclosure of “the nature, conduct, locations and results of such activities.”²⁸ Finally, Article XII requires that any “stations, installations, equipment and space vehicles . . . shall be open to representatives of other States Parties to the Treaty on a basis of reciprocity.”²⁹

These affirmative requirements do not outright restrict any allowable military activities, but they do require disclosures of personnel, materiel, installations, and actions to a degree that is incompatible with general military operations security.³⁰ Military operations require some level of secrecy to function effectively.³¹ Once an opponent knows what a military force is doing, where its personnel and weapons are emplaced, and what methods of attack and defense are available to it, that opponent can prepare for and avoid much of that military force’s capabilities.³² For this reason, the disclosures required by Articles IX through XII effectively hamstring

²⁵ *Id.*

²⁶ *Id.* art. X.

²⁷ *Id.* art. XI.

²⁸ *Id.*

²⁹ *Id.* art. XII.

³⁰ See DEP’T OF DEF., UNDERSECRETARY OF DEF. FOR INTELLIGENCE, NO. 5205.02-M, DOD OPERATIONS SECURITY (OPSEC) MANUAL APP. 12 (2008), <https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodm/520502m.pdf> [hereinafter OPSEC MANUAL] (“The OPSEC process is a systematic method used to identify, control, and protect critical information . . . Such information, if revealed to an adversary, may prevent or degrade mission accomplishment, cause loss of life, or damage friendly resources.”).

³¹ *Id.*

³² See *id.*

any military operations in space by requiring a military force to violate the fundamental tenets of operational security.³³ Therefore, Article IV is not the only component of the Outer Space Treaty with serious implications for the Space Force.

B. *The Law of Armed Conflict and Other Restrictions*

The body of international law that makes up the Law of Armed Conflict must be considered regarding military operations in space.³⁴ So, too, must other treaties on the conduct of nations in space.³⁵ Some of these treaties are duplicative of the Outer Space Treaty, or expansive on topics touched upon in the Outer Space Treaty, while a few others are largely separate.³⁶ As elaborated below, each will impact operations of the Space Force, but none will impose restrictions of a similar level as the Outer Space Treaty.

1. THE LAW OF ARMED CONFLICT

The Law of Armed Conflict is a distinct body of international law drawn from many international agreements and treaties.³⁷ Functionally, it may be treated as two distinct concepts, although both are considered to be components of LOAC: *jus in bello*; or, international law regulating conduct of armed forces during the course of a war, and *jus ad bellum*; or, international law defining the legality of initiating war.³⁸ Regardless of the distinction, neither concept makes an exception for military action based on the action's location or point of origination.³⁹

There is no good reason to assume, then, that LOAC would not apply to the use of weapons based in space or military actions that occur in space.⁴⁰ LOAC's importance to an independent Space

³³ *Id.*

³⁴ Esparza, *supra* note 5, at 342; *see also* Ramey, *supra* note 5, at 28–63 (discussing the development of the Law of Armed Conflict as a distinct body of international law and evaluating restrictions placed on military forces).

³⁵ Ramey, *supra* note 5, at 64–66.

³⁶ *See id.* at 86, 89, 91, 96 (discussing the Rescue and Return Agreement, Liability Convention, Registration Convention, and Moon Agreement as expansions of the Outer Space Treaty).

³⁷ *See id.* at 28–63.

³⁸ *Id.* at 32–34.

³⁹ Esparza, *supra* note 5, at 342–43.

⁴⁰ *Id.* at 343.

Force is then both serious and not: as a branch of the armed forces, any action conducted by the Space Force must comply with LOAC.⁴¹ Any military capabilities added to the Space Force from other branches would already have been compliant with LOAC, and any new capabilities added would similarly have to comply when utilized by the new branch.⁴² Given the emphasis the United States already places on compliance with LOAC,⁴³ such requirements will not have any impacts on the development of a new force that are not already placed upon military action.

2. BROADER TREATY FRAMEWORK

Several other international agreements involving space either duplicate or expand upon key terms of the Outer Space Treaty.⁴⁴ This additional international framework includes the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space, and Under Water (“Limited Test Ban Treaty”);⁴⁵ the Rescue and Return Agreement;⁴⁶ the Convention on the International Liability for Damage Caused by Space Objects of 1972 (“Liability Convention”);⁴⁷ the Convention on Registration of Objects Launched into Outer Space of 1975 (“Registration Convention”);⁴⁸ and the Agreement Governing the Activities of States on the Moon and other Celestial Bodies of 1979 (“Moon Agreement”).⁴⁹ One other previously important treaty, the Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti-

⁴¹ *Id.*

⁴² *Id.*

⁴³ See DEP’T OF DEF., LAW OF WAR MANUAL: JUNE 2015 ii (2016), <https://archive.defense.gov/pubs/law-of-war-manual-june-2015.pdf> (“The law of war is of fundamental importance to the Armed Forces of the United States.”).

⁴⁴ Ramey, *supra* note 5, at 73.

⁴⁵ Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, Aug. 5, 1963, 14 U.S.T. 1313, 480 U.N.T.S. 43 [hereinafter Limited Test Ban Treaty].

⁴⁶ Rescue and Return Agreement, *supra* note 8.

⁴⁷ Convention on International Liability for Damage Caused by Space Objects, Mar. 29, 1972, 24 U.S.T. 2389, 961 U.N.T.S. 187 [hereinafter Liability Convention].

⁴⁸ Convention on the Registration of Objects Launched into Outer Space, Jan. 14, 1975, 28 U.S.T. 695, 1023 U.N.T.S. 15 [hereinafter Registration Convention].

⁴⁹ G.A. Res. 34/68, Agreement on the Activities of States on the Moon and Other Celestial Bodies (Dec. 5, 1979) [hereinafter Moon Agreement].

Ballistic Missile Systems of 1972 (“ABM Treaty”),⁵⁰ was rendered void by the United States’ withdrawal in 2002.⁵¹

i. *The Limited Test Ban Treaty of 1963*

The Limited Test Ban Treaty predates the Outer Space Treaty,⁵² the United States and Soviet Union having signed the Limited Test Ban Treaty in 1963.⁵³ The Limited Test Ban Treaty, like the Outer Space Treaty, bans the use of nuclear weapons in space, although it is more explicit regarding use and does not prevent signatory nations from placing nuclear weapons in orbit.⁵⁴ This creates a very similar restriction on military employment of nuclear weapons in a space-based conflict but does not restrict the use of nuclear weapons dropped from orbit, unlike the Outer Space Treaty.⁵⁵ Interestingly, the Limited Test Ban Treaty may prevent the use of nuclear-fission-powered space vehicles, as the Treaty bans any nuclear explosion in space.⁵⁶ More practically, the Limited Test Ban Treaty also disallows the use of nuclear weapons detonated in orbit to create an electromagnetic pulse effect, a tactic that could effectively disable enemy satellites.⁵⁷

ii. *The Rescue and Return Agreement of 1968*

The Rescue and Return Agreement expands upon the Outer Space Treaty’s requirement in Articles V and XIII that signatory nations will attempt to rescue and assist astronauts of other nations in

⁵⁰ Treaty on the Limitation of Anti-Ballistic Missile Systems, May 26, 1972, 944 U.N.T.S. 13448 [hereinafter ABM Treaty].

⁵¹ *Fact Sheet: Anti-Ballistic Missile Treaty*, CTR. FOR ARMS CONTROL & NON-PROLIFERATION (May 12, 2017), <https://armscontrolcenter.org/fact-sheet-anti-ballistic-missile-treaty/>; see also *ABM Treaty Fact Sheet: Announcement of Withdrawal from the ABM Treaty*, WHITE HOUSE (Dec. 13, 2001), <https://georgewbush-whitehouse.archives.gov/news/releases/2001/12/20011213-2.html>.

⁵² Compare Limited Test Ban Treaty, *supra* note 45, with Outer Space Treaty, *supra* note 3.

⁵³ Limited Test Ban Treaty, *supra* note 45.

⁵⁴ *Id.* art. I.

⁵⁵ Compare *id.*, with Outer Space Treaty, *supra* note 3, art. IV.

⁵⁶ Limited Test Ban Treaty, *supra* note 45, art. I; see also Ramey, *supra* note 5, at 101.

⁵⁷ Limited Test Ban Treaty, *supra* note 45, art. I; see also Ramey, *supra* note 5, at 101.

distress and return those astronauts to their home nation.⁵⁸ The Rescue and Return Agreement requires that nations assist any foreign astronauts “experiencing conditions of distress”⁵⁹ and “safely and promptly return[]” any personnel that land on a signatory nation’s soil or are found by that signatory nation.⁶⁰ At first glance, this agreement seems to require an immediate return of any astronauts captured as prisoners of war (“POWs”) should hostilities commence in space. This may not be true, at least so long as the Outer Space Treaty is in force—presuming the POWs are captured from the side violating the Outer Space Treaty’s peaceful purposes clause by initiating hostilities.⁶¹ However, the Rescue and Return Agreement’s requirement to return recovered astronauts “promptly”⁶² would bear larger consideration if the United States were to withdraw from the Outer Space Treaty and, in the future, military personnel conduct physical operations beyond the bounds of Earth.

iii. *The Liability Convention of 1972*

The Liability Convention similarly expands upon an article of the Outer Space Treaty, this time Article VII’s establishment of nations’ liability for damages caused by their “space objects.”⁶³ The Convention establishes a multi-tiered system of determining liability for damages.⁶⁴ Interestingly, the Convention does not draw a distinction between military or civilian space objects or activities.⁶⁵ Quite probably, then, the Liability Convention could subject a state to pecuniary liability for military operations conducted from space,⁶⁶ although the likelihood of this affecting a decision to use military force, when necessary, seems unlikely, as a successful belligerent would be able to impose its conditions for peace, and unsuccessful belligerents tend to owe reparations in some form post-

⁵⁸ Compare Rescue and Return Agreement, *supra* note 8, art. II, with Outer Space Treaty, *supra* note 3, art. V, XIII.

⁵⁹ Rescue and Return Agreement, *supra* note 8, art. I.

⁶⁰ *Id.* art. IV.

⁶¹ See Ramey, *supra* note 5, at 153.

⁶² Rescue and Return Agreement, *supra* note 8, art. IV.

⁶³ Compare Liability Convention, *supra* note 47, art. II, with Outer Space Treaty, *supra* note 3, art. VII.

⁶⁴ Liability Convention, *supra* note 47, arts. XIV–XVI.

⁶⁵ See generally *id.*; see also Ramey, *supra* note 5, at 90.

⁶⁶ Ramey, *supra* note 5, at 90.

conflict.⁶⁷ While international liability for space-based military activities would remain, then, after a withdrawal from the Outer Space Treaty, the Liability Convention's provisions seem unlikely to have a significant impact on the Space Force.

iv. The Registration Convention of 1975

The Registration Convention establishes a system to record basic functional and orbital information about each satellite placed into Earth's orbit.⁶⁸ The Convention opens with a statement of dual purpose: concerns of both national liability for space objects and the peaceful use of space.⁶⁹ The registration system itself, however, is limited to very basic information about the satellite, requiring the nation to identify its ownership as well as the launch location, orbital information, and "general function of the space object."⁷⁰ The Convention does not define or give an example of a description of a satellite's general function;⁷¹ this determination is instead left to the state providing the information.⁷² The Registration Convention's impact on military operational security may not be as serious or detrimental as the Outer Space Treaty's under Article XII, then, as the United States could describe military satellites' general functions vaguely enough to prevent easy identification via the international registry.⁷³ Indeed, despite the registry's existence, the use of satellites for military reconnaissance has hardly been hamstrung.⁷⁴

⁶⁷ See *Reparations*, ENCYCLOPEDIA BRITANNICA, <https://www.britannica.com/topic/reparations> (last visited Dec. 27, 2019) (defining "reparations" as "a levy on a defeated country forcing it to pay some of the war costs of the winning countries").

⁶⁸ Registration Convention, *supra* note 48, art. II.

⁶⁹ *Id.* pmbl.

⁷⁰ *Id.* art. IV.

⁷¹ *Id.*

⁷² Ramey, *supra* note 5, at 93. States have an affirmative duty to provide only the following information to the international registry: name of launching state, a designator or registration number for the space object, date and location of launch, basic orbital information (nodal period, inclination, apogee, and perigee), and the general function of the space object. Registration Convention, *supra* note 48, art. IV.

⁷³ Ramey, *supra* note 5, at 93.

⁷⁴ *Id.* at 94.

v. *The Moon Agreement of 1979*

Despite its name, the Moon Agreement extends its wording to celestial bodies generally, much like the Outer Space Treaty.⁷⁵ Like the other agreements and conventions discussed above, the Moon Agreement expands upon restrictions and requirements established in the Outer Space Treaty; however, unlike the other treaties, the United States is not currently a signatory nation.⁷⁶ It allows the same use of military forces on celestial bodies as the Outer Space Treaty—peaceful purposes including scientific research—but elaborates on more distinct restrictions on the use of military capabilities in space.⁷⁷ The Agreement prohibits outright any “threat or use of force or any other hostile act on the moon.”⁷⁸ It also prohibits signatories from placing weapons of mass destruction (“WMD”) in orbit around any celestial bodies.⁷⁹ Significantly, the agreement does not prohibit the emplacement of other weapons around celestial bodies.⁸⁰ Given that the Agreement essentially parrots the Outer Space Treaty’s restrictions on military activities on celestial bodies, and does little other than add additional wording to the Outer Space Treaty’s requirement that any military activities be only for peaceful purposes, the Moon Agreement does not add significantly to the framework of international restrictions on Space Force capabilities.⁸¹ The Moon Agreement could have one potential complication for future actions of the Space Force, which this Note will address later in Parts III and IV. Should efforts materialize to colonize planetary bodies, the Moon Agreement presents the same host of issues

⁷⁵ Compare Moon Agreement, *supra* note 49, art. I, with Outer Space Treaty, *supra* note 3, art. I.

⁷⁶ Compare Moon Agreement, *supra* note 49, with Outer Space Treaty, *supra* note 3; DEP’T OF STATE, TREATIES IN FORCE: A LIST OF TREATIES AND OTHER INTERNATIONAL AGREEMENTS OF THE UNITED STATES IN FORCE ON JANUARY 1, 2019 546–47 (2019), <https://www.state.gov/wp-content/uploads/2019/05/2019-TIF-Bilaterals-web-version.pdf> (listing treaties and other international agreements the United States has signed regarding space, without presence of the Moon Agreement); *see also* Ramey, *supra* note 5, at 98.

⁷⁷ Compare Outer Space Treaty, *supra* note 3, art. IV, with Moon Agreement, *supra* note 49, art. II.

⁷⁸ Moon Agreement, *supra* note 49, art. III.

⁷⁹ *Id.*

⁸⁰ *See generally id.*

⁸¹ *See* Ramey, *supra* note 5, at 96.

for military enforcement of any laws, national or international, governing that colonization effort, and the United States should therefore avoid signing the Moon Agreement.

II. MODERN MILITARY CAPABILITIES AND SPACE

This Part will address specific military capabilities that could become a part of the Space Force and will evaluate their individual legality under the Outer Space Treaty. First, it will focus on WMD and whether orbital strike capabilities would fall within the Outer Space Treaty's restrictions on such capabilities. Second, it will evaluate the possibility of placing anti-ballistic missile defenses in orbit. Third, it will analyze anti-satellite weaponry under the Outer Space Treaty. Finally, it will discuss the Outer Space Treaty's potential impacts on human exploration and colonization of space.

A. *Orbital Strike Capabilities*

Current military technology can easily allow for the placement of weapons on satellites in high- or low-earth orbit.⁸² The more difficult question is whether the placement and use of such weapons would violate the Outer Space Treaty's prohibition on satellites carrying WMD.⁸³ Varying types of weapons will produce varying effects, and such effects must be considered in determining whether or not a weapon is defined as a WMD.⁸⁴ Some more futuristic technologies, such as directed energy weapons ("DEWs") (colloquially although inaccurately called lasers), could potentially raise concerns regarding Article IV's prohibitions on WMD, as well.⁸⁵

⁸² David C. Hardesty, *Space-Based Weapons: Long-Term Strategic Implications and Alternatives*, 58 NAVAL WAR COLLEGE REV. 45, 52 (2005).

⁸³ Outer Space Treaty, *supra* note 3, art. IV; *see also* Hardesty, *supra* note 82, at 53 (discussing the Outer Space Treaty and stating, "it is difficult to distinguish space-based WMD from space-based non-WMD.").

⁸⁴ *See* Vermeer, *supra* note 19, at 308–10.

⁸⁵ *Id.* Vermeer determines that DEWs should not be considered WMD under any traditional definition, even though some types employ atomic energy to function. *Id.* at 309–10. The question remains open and barely explored.

1. DEFINING WEAPONS OF MASS DESTRUCTION

Although the UN has not established a single, overarching definition of WMD, and the Outer Space Treaty itself does not define the term, different bodies of the UN have established the term to be as broad as “all major weapons adaptable to mass destruction”⁸⁶ or “atomic explosive weapons, radio-active material weapons, lethal chemical and biological weapons and any weapons developed in the future which have characteristics comparable in destructive effect.”⁸⁷ These definitions leave undefined the full meaning of “adaptable” or “comparable.” Arguments abound over exactly what weapons satisfy international definitions.⁸⁸ The United States takes an even broader view of WMD, as the United States Code defines the term to mean “any destructive device.”⁸⁹ The term destructive device is defined in a different section of the Code as “any explosive, incendiary, or poison gas.”⁹⁰ Such a definition is substantially broader than the UN definitions. The United States Code’s definition is likely not relevant to interpreting the Outer Space Treaty, as it is directed at domestic prevention of terrorism,⁹¹ but it illustrates just how generally the term can be interpreted. The ambiguity inherent in the definition of WMD leaves some uncertainty around employing weapons in space.⁹²

2. ORBITAL STRIKE WEAPONS

Given the extensive nuclear capabilities of the United States military,⁹³ basing nuclear weapons in orbit would not be worth the associated costs. The Congressional Budget Office has estimated that

⁸⁶ G.A. Res. 1(I), ¶ 5(c) (Jan. 24, 1946).

⁸⁷ G.A. Res. 34/87 A (Dec. 11, 1979).

⁸⁸ See, e.g., Hardesty, *supra* note 82, at 53; Vermeer, *supra* note 19, at 308–10.

⁸⁹ 18 U.S.C. § 2332a(c)(2)(a) (2018).

⁹⁰ *Id.* § 921(a)(4)(a).

⁹¹ See *id.*

⁹² See, e.g., Hardesty, *supra* note 82, at 53; Vermeer, *supra* note 19, at 308–10.

⁹³ *U.S. Nuclear Weapons Capability*, HERITAGE FOUND. (Oct. 4, 2018), <https://www.heritage.org/military-strength/assessment-us-military-power/us-nuclear-weapons-capability>; Kingston Reif, *U.S. Nuclear Modernization Programs*, ARMS CONTROL ASS’N (Aug. 2018), <https://www.armscontrol.org/factsheets/US-NuclearModernization>.

simply modernizing the U.S. nuclear arsenal will cost 1.2 trillion dollars.⁹⁴ Given the cost of updating the current nuclear arsenal, basing nuclear weapons in space—the most obvious way to violate the Outer Space Treaty—would not be worth whatever it would cost.

What space does offer, however, is the ability to conduct world-wide strikes of a more limited capability without the need to send aircraft carriers around the world or establish forward air bases abroad.⁹⁵ Hypervelocity Rod Bundles, also known as “eroding rods” or more colloquially as “Rods from God,” could strike targets across the globe with a response time of one-and-a-half to two hours.⁹⁶ These munitions, typically suggested to be a simple tungsten rod released from a satellite in high-earth orbit,⁹⁷ could offer an explosive yield comparable to their weight capable of destroying hardened targets like underground bunkers, missile silos, or reinforced aircraft bunkers.⁹⁸ Whether basing hypervelocity rods on satellites is lawful under the Outer Space Treaty, however, is as unsettled as the definition of WMD.⁹⁹ As the rods do not provide a nuclear, chemical, or biological yield, they may not be considered traditional WMD;¹⁰⁰ however, their immense destructive power could potentially run afoul of broad UN definitions.¹⁰¹ Therefore, the Space Force’s ability to provide new strike capabilities with hypervelocity rods remains legally uncertain under the Outer Space Treaty.

Finally, and with the least legal controversy, the Space Force could station and maintain conventional weapons on satellites in low-earth orbit.¹⁰² Stationing conventional munitions similar to the smart bombs carried by modern fighter aircraft in low-earth orbit

⁹⁴ MICHAEL BENNETT, CONG. BUDGET OFFICE, APPROACHES FOR MANAGING THE COSTS OF U.S. NUCLEAR FORCES, 2017 TO 2046, at 3 (2017), <https://www.cbo.gov/system/files/115th-congress-2017-2018/presentation/53334-presentation.pdf>.

⁹⁵ See Hardesty, *supra* note 82, at 51–53.

⁹⁶ *Id.* at 51–52; Colin Johnston, *Rods from God: A Terrifying Space Weapon?*, ARMAGH OBSERVATORY & PLANETARIUM (Sep. 27, 2010), <http://www.armaghplanet.com/rods-from-god-a-terrifying-space-weapon.html>.

⁹⁷ Johnston, *supra* note 97.

⁹⁸ Hardesty, *supra* note 82, at 51–53.

⁹⁹ See *id.* at 53.

¹⁰⁰ See Vermeer, *supra* note 19, at 308–10 (discussing the legality of nuclear weapons that lack the traditional characteristics of weapons termed WMD).

¹⁰¹ *Id.* at 308–09.

¹⁰² Hardesty, *supra* note 82, at 52.

would allow even more rapid employment than hypervelocity rods, with a likely response time of twenty to thirty minutes.¹⁰³ Because placement of non-WMD in space does not explicitly violate the Outer Space Treaty,¹⁰⁴ this option would allow the Space Force to easily provide a new strike option that the United States military currently lacks, although more limited in capability than hypervelocity rods.

B. Anti-Ballistic Missile Defenses

The idea of basing anti-ballistic missile (“ABM”) weapons on satellites to defend against nuclear-tipped intercontinental ballistic missiles (“ICBMs”) first emerged in 1983, when President Reagan proposed the Strategic Defense Initiative (“SDI”).¹⁰⁵ While the SDI was nothing but an idea in the 1980s, derided by some opponents as “Star Wars” for its suggestion of using lasers to shoot down Soviet ICBMs,¹⁰⁶ some of the concepts that once seemed like science fiction have inched closer to reality today. For example, the Air Force suggested development of one such weapon, a functional ABM system called the Evolutionary Air and Space Global Laser Engagement, or EAGLE, in a 2003 plan.¹⁰⁷ One great concern of the plan, which would use space-based mirrors to reflect a powerful ground-based laser beam at incoming missiles, was that adversaries would be able to track the mirror satellites and either shoot them down or launch ICBMs in the windows where the mirrors provided the least coverage of launch points.¹⁰⁸ The Outer Space Treaty does not ban such satellites or require their outright disclosure, but the Registra-

¹⁰³ *Id.*

¹⁰⁴ Kuplic, *supra* note 19, at 1148.

¹⁰⁵ *Strategic Defense Initiative*, ENCYCLOPEDIA BRITANNICA, <https://www.britannica.com/topic/Strategic-Defense-Initiative> (last visited Oct. 28, 2019).

¹⁰⁶ *Strategic Defense Initiative (SDI)*, ATOMIC HERITAGE FOUND. (Jul. 18, 2018), <https://www.atomicheritage.org/history/strategic-defense-initiative-sdi>.

¹⁰⁷ Hardesty, *supra* note 82, at 46, 49–50. EAGLE’s legality (or the legality of a similar modern system) *vis-à-vis* the Outer Space Treaty should not be a concern, as the beam emitter would be physically located on Earth. Of course, if a plan called for stationing such an emitter on a satellite in orbit, concerns about the weapon’s definition would again be pertinent.

¹⁰⁸ *Id.*

tion Convention does require the United States to identify such satellites' basic purpose,¹⁰⁹ leading to the concern that adversaries could easily identify and defeat them. Regardless of the specific type of ABM system developed, such systems are legal, if of limited value under the Outer Space Treaty and other international agreements.

C. Anti-Satellite Warfare

Unlike the futuristic idea of mounting orbital strike weapons or anti-ballistic missile defense on satellites, anti-satellite (“ASAT”) warfare exists in the here and now.¹¹⁰ The United States first demonstrated the ability to hit a satellite with an air-launched missile in 1985.¹¹¹ After a long pause in ASAT weapons testing, China demonstrated its own ability to hit satellites when it struck one of its aging weather satellites with a ground-launched ballistic missile in 2007.¹¹² The United States responded to the Chinese test in 2008 by downing one of its own aging satellites with a ship-based missile.¹¹³ India struck one of its own aging military satellites with a ground-launched missile, becoming only the fourth nation to test an ASAT weapon in 2019.¹¹⁴ The Russian military is believed to be pursuing a modern ASAT weapon system, as well.¹¹⁵

¹⁰⁹ Outer Space Treaty, *supra* note 3, art. IV; Registration Convention, *supra* note 48, art. I.

¹¹⁰ LAURA GREGO, UNION OF CONCERNED SCIENTISTS, A HISTORY OF ANTI-SATELLITE PROGRAMS 1 (2012), https://www.ucsusa.org/sites/default/files/2019-09/a-history-of-ASAT-programs_lo-res.pdf.

¹¹¹ *Id.* at 5.

¹¹² *Id.* at 13.

¹¹³ *See id.* at 12–13. India later joined the exclusive group of the United States, Russia, and China in having tested functional ASAT missiles.

¹¹⁴ Ashlyn Still et al., *India Shoots Down Own Satellite*, REUTERS (Mar. 27, 2019), <https://graphics.reuters.com/INDIA-SATELLITE-WEAPON/0100918Q1RV/index.html>.

¹¹⁵ Leonard David, *China, Russia Advancing Anti-Satellite Technology, US Intelligence Chief Says*, SPACE.COM (May 18, 2017), <https://www.space.com/36891-space-war-anti-satellite-weapon-development.html>.

The legality of ASAT weapons under the Outer Space Treaty is, however, up for significant debate.¹¹⁶ This debate extends to the international arena, as Japan has condemned the Chinese ASAT test in 2007 as illegal, while other countries merely condemned the Chinese action as irresponsible.¹¹⁷ Furthermore, the plain wording of the Outer Space Treaty strongly suggests that ASATs are, if not prohibited, at least restricted in use under Article IX's reporting requirements.¹¹⁸ These restrictions remain in place regardless of the method used: even if nations resorted to non-kinetic ASAT weapons, such as electronic jamming, the Outer Space Treaty's implications remain.¹¹⁹

What may be currently allowed, however, are defensive ASATs: the Outer Space Treaty focuses its prohibitions on activities interfering with "peaceful exploration and use."¹²⁰ Indeed, it seems to be that nations do not forego the right to self-defense in space because of the Outer Space Treaty's prohibitions.¹²¹ Therefore, the Space Force could, without implicating the Outer Space Treaty, employ

¹¹⁶ Compare Zedalis, *supra* note 19, at 481–82 (determining ASAT weapons to be illegal under the Outer Space Treaty, while calling for further international agreements clarifying the illegality of ASAT weapons), and Kuplic, *supra* note 19, at 1152–53 (confirming that international norms are trending towards nations viewing ASAT weapons as illegal), with Esparza, *supra* note 5, at 355 (determining that kinetic ASAT weapons do not violate the Outer Space Treaty because they are not specifically prohibited). While the debate about ASAT legality remains open, it appears to be weighted towards the view that ASATs are illegal under the Outer Space Treaty.

¹¹⁷ Kuplic, *supra* note 19, at 1149–51.

¹¹⁸ Outer Space Treaty, *supra* note 3, art. IX.

If a State Party to the Treaty has reason to believe that an activity or experiment planned by it or its nationals in outer space, including the Moon and other celestial bodies, would cause potentially harmful interference with activities of other States Parties in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, it shall undertake appropriate international consultations before proceeding with any such activity or experiment.

Id. At a bare minimum, Article IX seems to require that states disclose the use of an ASAT to any potentially affected nation prior to use of the weapon. Prior disclosure would prevent the effective viability of ASATs as a military tactic.

¹¹⁹ Esparza, *supra* note 5, at 351.

¹²⁰ Outer Space Treaty, *supra* note 3, art. IX.

¹²¹ See, e.g., Esparza, *supra* note 5, at 356; Ramey, *supra* note 5, at 62–63.

space-based defensive weapons meant to protect American satellites from ASATs.¹²²

D. *General Military Activities*

Until recently, the idea of establishing extraterrestrial colonies seemed like science fiction, better suited to a Heinlein novel or a blockbuster movie than a reality the international community would need to address. While such an effort must still be some time in the future, today some entrepreneurs tout plans to establish colonies on Mars and make spaceflight commercially accessible.¹²³ Even if talk of extraterrestrial colonies is still uncommon, others see increasing commercial opportunities beyond Earth.¹²⁴ While the practical implications of such developments cannot be truly known before humanity reaches out into the heavens, the Outer Space Treaty has already established restrictions that could hamper such development: primarily, the ban on military activities and installations on celestial bodies.¹²⁵ These possibilities remain far in the future, so new international agreements could rise to handle the problems space colonization could present. Currently, no nation could legally protect its citizens on such colonies or handle any disputes that could arise because the Outer Space Treaty places a complete bar on the use of military forces for any activities other than peaceful exploration or scientific research.¹²⁶

While faith in international agreements may lead to the belief that military forces will not be needed beyond Earth, U.S. military

¹²² Because many proposed ASATs are in fact themselves satellites, these defensive weapons would also be considered ASATs. Esparza, *supra* note 5, at 349–55. However, as Ramey notes, signatory nations are likely unable to avail themselves of the Outer Space Treaty’s protections once their space-based activities imperil the safety of another nation’s legal satellites, and so therefore purely defensive ASATs should not violate the Outer Space Treaty, even when employed to interfere with an aggressor ASAT. See Ramey, *supra* note 5, at 136.

¹²³ See, e.g., Elon Musk, *Making Humans a Multi-Planetary Species*, 5 *NEW SPACE* 46, 46 (2017); *Making Life Interplanetary*, SPACE X, <https://www.spacex.com/mars> (last visited Nov. 4, 2019) [hereinafter *SpaceX Mars Plan*].

¹²⁴ See, e.g., *Our Mission*, BLUE ORIGIN, <https://www.blueorigin.com/our-mission> (last visited Dec. 29, 2019).

¹²⁵ See Outer Space Treaty, *supra* note 3, art. IV.

¹²⁶ *Id.*

power has defined the period of relative peace and prosperity after the Second World War, often referred to as the “Pax Americana.”¹²⁷ This period of peace has been indisputably protected by American military power.¹²⁸ Should space colonization become a reality, some power will need to fill the void created by new expansions. Whether that power will be American, international, or another nation, the Outer Space Treaty as it stands forbids the use of military personnel to enforce peace beyond the Earth.¹²⁹ Therefore, should such a duty ever become a mission of the Space Force in the future, as far off as it may be, the Outer Space Treaty will need to be discarded or reworked to avoid treaty violations.

III. THE SPACE FORCE

This Part will address the necessity of making the Space Force a capable and functional military branch in its own right, rather than an amalgamation of prior-existing agencies and units. First, it will address the Pentagon’s current proposed plan, evaluating what portions could create potential conflicts with existing space law. Second, it will offer the potential national security solutions an unshackled Space Force could offer the United States.

A. *Structure of the New Branch*

The National Defense Authorization Act for Fiscal Year 2020 (“NDAA”) establishes the Space Force as a component branch of the Air Force.¹³⁰ The NDAA authorized a Chief of Space Operations, a general officer who will report to the Secretary of the Air Force and serve on the Joint Chiefs of Staff.¹³¹ The Space Force will initially be composed of servicemembers drawn entirely from the

¹²⁷ *Pax Americana*, MERRIAM-WEBSTER, <https://www.merriam-webster.com/dictionary/Pax%20Americana> (last visited Dec. 29, 2019).

¹²⁸ Christopher Layne, *The End of Pax Americana: How Western Decline Became Inevitable*, ATLANTIC (Apr. 26, 2012), <https://www.theatlantic.com/international/archive/2012/04/the-end-of-pax-americana-how-western-decline-became-inevitable/256388/>.

¹²⁹ Outer Space Treaty, *supra* note 3, art. IV.

¹³⁰ National Defense Authorization Act for Fiscal Year 2020, Pub. L. No. 116-92, §§ 951–61 (2019) (to be codified at 10 U.S.C. § 908).

¹³¹ *Id.* §§ 952(b)(1), 953 (to be codified at 10 U.S.C. §§ 9081(b)(1), 9082).

active duty Air Force; the NDAA authorized no new military positions for the Space Force.¹³² The current Secretary of the Air Force, Barbara Barret, plans to assign roughly 16,000 military servicemembers and civilian employees employed by Air Force Space Command to the new Space Force.¹³³

The NDAA also establishes the Space Force's official functions and duties.¹³⁴ The Space Force's purpose is to provide "freedom of operation for the United States in, from, and to space" and "prompt and sustained space operations."¹³⁵ The Space Force is responsible for (1) "protect[ing] the interests of the United States in space," (2) "deter[ring] aggression in, from, and to space," and (3) "conduct[ing] space operations."¹³⁶

While the current plan for the Space Force provides no explicit indication that the service would be pursuing new capabilities, its voice on the Joint Chiefs of Staff should allow for visionary officers to advocate for the new capabilities the Space Force can provide the United States.¹³⁷ The new service's duties to provide freedom of op-

¹³² *Id.* § 952(d)(2) (to be codified at 10 U.S.C. § 9081(d)(2)).

¹³³ Rachel S. Cohen, *Space Force Established as Trump Signs NDAA*, AIR FORCE MAGAZINE (Dec. 20, 2019), <https://www.airforcemag.com/space-force-established-as-trump-signs-ndaa/>.

¹³⁴ National Defense Authorization Act for Fiscal Year 2020 §§ 952(c), (d) (to be codified at 10 U.S.C. §§ 9081(c), (d)).

¹³⁵ *Id.* § 952(c) (to be codified at 10 U.S.C. § 9081(c)).

¹³⁶ *Id.* § 952(d) (to be codified at 10 U.S.C. § 9081(d)).

¹³⁷ The Army officers who formed the Army Air Corps, later the Army Air Service, Army Air Forces, and finally the independent Air Force advocated for the radical changes in military structure and doctrine as air power evolved in the early twentieth century. Army Brigadier General William "Billy" Mitchell, famously court-martialed for his zealous advocacy of airpower and an independent Air Force, is often remembered as the most outspoken supporter of the radical changes airpower wrought on twentieth-century combat. See Minnie L. Jones, *William "Billy" Mitchell – 'The Father of the United States Air Force'*, U.S. ARMY (Jan. 28, 2010), https://www.army.mil/article/33680/william_billy_mitchell_the_father_of_the_united_states_air_force. However, he was far from the only military officer to do so. General of the Air Force Henry "Hap" Arnold, a contemporary of General Mitchell's known for his steadier hand in the development of the Air Force, played a more important, if less public, role in developing airpower as an American military capability. See *General Henry H. Arnold*, U.S. AIR FORCE, <https://www.af.mil/About-Us/Biographies/Display/Article/107811/general-henry-h-arnold/> (last visited Nov. 6, 2019). Given the military

erations and deter enemy aggression in space suggest that the service's needs for new capabilities will grow as human use of space becomes more common. Given that many of the capabilities future Space Force officers could advocate for are banned, restricted, or hampered by the Outer Space Treaty, as discussed in Part II, *supra*, and elaborated upon in Section III.B, *infra*, the United States should reevaluate the current international legal framework regarding military activities in space.

B. *Positive Impacts of Withdrawal*

Withdrawing from the Outer Space Treaty would allow the Space Force to pursue new strategic and tactical capabilities that could drastically enhance the new branch's contributions to national security. The Space Force would immediately be able to pursue its capabilities in orbit with less interference and greater operational security.¹³⁸ It could station defensive ASATs around critical communications and reconnaissance satellites without having to disclose exactly which satellites possessed defensive capabilities, thereby making an adversary commit more resources before striking at American satellites, or even preventing such potential attacks outright.¹³⁹ Similarly, it could station ABM satellites in orbit without having to disclose the exact nature of American missile defenses.¹⁴⁰ Finally, it could emplace modern strike weaponry on satellites in low-earth orbit, granting reaction times around the globe that aircraft could never match, and again conceal the purpose of such satellites from adversaries.¹⁴¹

With an eye to the future, the Space Force could develop more unique and intensive strike options, such as hypervelocity rods, or other technologies not yet conceived.¹⁴² It could develop an extensive and capable ASAT program able to remove adversaries' space

capabilities space can offer, having an independent service head for the Space Force seems likely to generate support for new ideas along the lines seen in the Air Force's own history.

¹³⁸ See OPSEC MANUAL, *supra* note 30, at 12–14.

¹³⁹ See *supra* Part II.C.

¹⁴⁰ See *supra* Part II.B.

¹⁴¹ See *supra* Part II.A.

¹⁴² See *supra* Part II.A.

capabilities in the event of serious conflict, all while protecting its own satellites from interference.¹⁴³ Furthest away, but bearing consideration, the service could develop plans to protect extraterrestrial U.S. colonies or commercial interests as such ideas begin to edge towards reality.¹⁴⁴ These capabilities would take the Space Force from being a mere recollection of sister-service units and turn it into a truly fearsome and meaningful military branch in its own right. In order to do so, the United States should consider withdrawal from the Outer Space Treaty, with all its potential implications and benefits.

C. *The Necessity of Space-Based Military Capabilities*

The United States faces growing threats from multiple sources to its interests in space.¹⁴⁵ While Russia has not continued to grow its military at its Cold-War level of development, it remains a capable threat to American satellites through kinetic and non-kinetic ASAT weaponry.¹⁴⁶ Other nations, such as Iran and North Korea, have started pursuing space programs, albeit without truly significant investments or developments.¹⁴⁷ Of greatest concern to the United States, however, should be Chinese space-program developments.¹⁴⁸ The Chinese continue to pursue advanced ASAT weaponry, both kinetic, like the country's 2007 missile test, and non-kinetic (including electronic- and cyber-attack capabilities).¹⁴⁹ Crucially, the Chinese have highlighted the strategic importance of space in military publications and have created a military organization dedicated to space and cyber warfare.¹⁵⁰

¹⁴³ See *supra* Part II.C.

¹⁴⁴ See, e.g., *SpaceX Mars Plan*, *supra* note 122.

¹⁴⁵ TODD HARRISON ET AL., CTR. FOR STRATEGIC & INT'L STUDIES, SPACE THREAT ASSESSMENT 2018, at 1 (2018), https://aerospace.csis.org/wp-content/uploads/2018/04/Harrison_SpaceThreatAssessment_FULL_WEB.pdf.

¹⁴⁶ *Id.* at 12–15.

¹⁴⁷ *Id.* at 16–21.

¹⁴⁸ See *id.* at 6.

¹⁴⁹ *Id.* at 8–11.

¹⁵⁰ *Id.* at 7. The Chinese military branch dedicated to space falls under the People's Liberation Army, or PLA, and is called the Strategic Support Force, or SSF. *Id.* Full knowledge of the SSF's capabilities, vice the rest of the PLA, is limited, but China is clearly making space a priority in its military development. *Id.* at 7–8.

IV. WITHDRAWAL FROM THE OUTER SPACE TREATY

This Part will address how the United States can, and whether the United States should, withdraw from the Outer Space Treaty. First, it will address the legal mechanisms behind enforcement of international treaties and the Outer Space Treaty in particular. Second, it will cover the methods by which the United States could legally withdraw from the Outer Space Treaty. Finally, it will conclude with the potential legal and geopolitical repercussions of American withdrawal, with a final emphasis on the possibility of an arms race in space.

A. Treaty Enforcement

Treaty enforcement as a cohesive idea in international law does not truly exist.¹⁵¹ In reality, enforcement of most treaties requires international attention and the imposition of sanctions on offending nations.¹⁵² Alternately, some treaties include dispute resolution or bilateral or multilateral enforcement mechanisms within their own framework.¹⁵³ In the absence of practical enforcement imposed by treaties' terms, states can take matters into their own hands, imposing sanctions unilaterally or engaging in other methods of self-help.¹⁵⁴

¹⁵¹ Tseming Yang, *International Treaty Enforcement as a Public Good: Institutional Deterrent Sanctions in International Environmental Agreements*, 27 MICH. J. INT'L L. 1131, 1134–35 (2006).

¹⁵² *Id.* at 1135 (citing W. Michael Reisman, *The Enforcement of International Judgments*, 63 AM. J. INT'L L. 1, 6 (1969)).

¹⁵³ *Id.* at 1136–38. One of the more regularly recognized examples of this approach can be seen in the World Trade Organization, which can expel members or impose trade sanctions for treaty violations. *Id.*

¹⁵⁴ *Id.* at 1139–45. States can also enforce treaties on themselves under their own domestic law, although such concerns are beyond the scope of this Article. Whether or not the United States must automatically enforce ratified treaties as codified domestic law remains an ongoing legal debate. Compare John C. Yoo, *Treaties and Public Lawmaking: A Textual and Structural Defense of Non-Self-Execution*, 99 COLUM. L. REV. 2218, 2218–20 (1999) (elaborating on why American courts should not automatically enforce treaties as domestic law), with Martin S. Flaherty, *History Right?: Historical Scholarship, Original Understanding, and Treaties as "Supreme Law of the Land,"* 99 COLUM. L. REV. 2095, 2096–2100 (1999) (arguing treaties should be considered binding law on individuals within American courts).

The Outer Space Treaty itself contains no dispute resolution method or enforcement mechanism.¹⁵⁵ The treaty does provide that signatories may “request consultation” with another party in certain circumstances, although there is no requirement that the other party agree to the request.¹⁵⁶ In the event of another state’s violation of the Outer Space Treaty, the only real recompense signatories have would be the traditional methods of enforcement detailed above or, in the most extreme case, a state’s traditional right to self-defense.¹⁵⁷

None of this is to suggest the United States should violate the Outer Space Treaty; rather, it is to recognize that the United States (and any other signatory nation) has limited methods by which to protect itself via the Outer Space Treaty should another state violate its prohibitions or obligations.¹⁵⁸ Indeed, given the treaty’s lack of enforcement mechanisms and the serious impacts warfare in space could have for American national security,¹⁵⁹ the United States must be ready to fight in space.¹⁶⁰ The only way this can be done is to actually prepare for the reality.¹⁶¹ Effective preparation requires two things: a military force focused on and capable of fighting beyond the lands, seas, or skies of Earth, which the Space Force can satisfy, if properly equipped; and withdrawal from the Outer Space Treaty.

¹⁵⁵ Outer Space Treaty, *supra* note 3; *see also* George D. Shrader, *Defense in Outer Space*, 49 MIL. L. REV. 157, 158 (1970).

¹⁵⁶ Outer Space Treaty, *supra* note 3, art. IX. Not only does Article IX contain no requirement that the requested party agree to the consultation, the requesting party must actually have a “reason to believe” that the other party’s actions could be harmful in order to request the consultation. *Id.* Even then, the requested party is under no obligation to accept. *See id.*

¹⁵⁷ *See* Shrader, *supra* note 155, at 159.

¹⁵⁸ *Id.*

¹⁵⁹ Kuplic, *supra* note 19, at 1140–42; Schmitt, *supra* note 4, at 125.

¹⁶⁰ *See* Matt Rivers et al., *China Lunar Rover Touches Down on Far Side of the Moon*, *State Media Announce*, CNN (Jan. 4, 2019), <https://www.cnn.com/2019/01/02/health/china-lunar-rover-far-moon-landing-intl/index.html> (last updated Jan. 4, 2019, 1:49 AM). The Chinese, notably, are pursuing an active space program and have demonstrated the ability to reach targets in orbit. *Id.* While the United States should not focus its growth on a single competitor, it must acknowledge the technological strides China has made in the past several decades and accept that it will not be the only space-capable power in the future.

¹⁶¹ Hardesty, *supra* note 82, at 65–66; Schmitt, *supra* note 4, at 125.

B. *The Process of Withdrawal*

In the United States, treaty withdrawal requires an analysis of three elements: what type of agreement is at stake, whether international or domestic law will govern the withdrawal, and whether Congress has enacted legislation to implement the agreement.¹⁶² The type of agreement determines the international and domestic requirements to achieve termination.¹⁶³ Typically, in the case of treaty withdrawals, requirements of both international and domestic law must be considered in the United States.¹⁶⁴ If Congress has enacted enforcement legislation for a particular treaty, then only Congress can repeal that legislation, regardless of whether the treaty behind the legislation is still in force.¹⁶⁵

Under international law, most treaties contain their own withdrawal provisions.¹⁶⁶ The Outer Space Treaty contains a withdrawal clause, which follows the international standard requiring a withdrawing party to give notice to the “Depositary Governments” (here, the United States, Russia, and the United Kingdom)¹⁶⁷ one year prior to the party’s intended effective withdrawal date.¹⁶⁸ There are no

¹⁶² STEPHAN P. MULLIGAN, WITHDRAWAL FROM INTERNATIONAL AGREEMENTS: LEGAL FRAMEWORK, THE PARIS AGREEMENT, AND THE IRAN NUCLEAR AGREEMENT 2 (2018), <https://fas.org/sgp/crs/row/R44761.pdf>.

¹⁶³ *Id.* at 3.

¹⁶⁴ *See id.* at 2–3.

¹⁶⁵ *Id.* at 16–17; *see All Information (Except Treaty Text) for Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies*, CONGRESS.GOV, <https://www.congress.gov/treaty-document/90th-congress/4/all-info> (last visited Dec. 29, 2019) [hereinafter *All Congressional Information on the Outer Space Treaty*].

¹⁶⁶ MULLIGAN, *supra* note 162, at 4. If treaties do not contain their own withdrawal requirements, then the Vienna Convention on the Law of Treaties will typically apply, which requires signatories to give twelve months’ notice to other parties prior to effective withdrawal from the treaty. *See* Vienna Convention on the Law of Treaties, arts. VII–XVII, entered into force Jan. 27, 1980, 1155 U.N.T.S. 331. The United States has not ratified the Vienna Convention, although that will not matter for the Outer Space Treaty, which contains its own withdrawal requirements. Outer Space Treaty, *supra* note 3, art. XVI.

¹⁶⁷ *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. DEPARTMENT OF STATE, <https://2009-2017.state.gov/t/isn/5181.htm> (last visited Dec. 29, 2019) [hereinafter *State Department Notes on the Outer Space Treaty*].

¹⁶⁸ Outer Space Treaty, *supra* note 3, art. XVI.

other international legal repercussions for treaty withdrawal, although states that disapprove of another's withdrawal may be able to implement some international political or economic consequences.¹⁶⁹

The domestic requirements for withdrawal from a Senate-approved treaty are more complicated and less settled than international requirements.¹⁷⁰ The generally accepted understanding seems to be that the President, as the head of the executive branch, has the authority to withdraw from treaties because the executive is solely responsible for "making official communications with foreign states."¹⁷¹ However, this is not settled law, and there remains debate as to whether the Senate must also agree to treaty withdrawal.¹⁷² If Senate approval for withdrawal is required, then the same two-thirds majority that the Constitution establishes for ratification would also likely be necessary for the United States' withdrawal.¹⁷³

However, scholars seem to generally argue that treaty withdrawal is left entirely in the hands of the President.¹⁷⁴ Executive branch officials have almost universally argued the same.¹⁷⁵ Congress as a whole has generally stepped back from involvement in treaty termination since the start of the twentieth century, though previously it had either authorized or retroactively approved presidential withdrawal from treaties.¹⁷⁶ The courts have rarely had rea-

¹⁶⁹ MULLIGAN, *supra* note 162, at 5.

¹⁷⁰ *Id.* at 5–6.

¹⁷¹ *Id.* at 5.

¹⁷² *Id.* at 8–12; *see also* James J. Moriarty, *Congressional Claims for Treaty Termination Powers in the Age of the Diminished Presidency*, 14 CONN. J. INT'L L. 123, 127–28 (1999) (suggesting that Congress will begin to assert a more dominant role in treaty termination as the Presidency shifts away from the Cold War's focus on national security).

¹⁷³ MULLIGAN, *supra* note 161, at 10; *see also* *INS v. Chadha*, 462 U.S. 919, 954 (1983) (holding that repeal of statutes must comply with Article I provisions just as passage of statutes must). If the Senate's involvement in withdrawal is ever determined to be required, it is difficult to fathom a method where anything other than the two-thirds majority required for approval by the Constitution would similarly be required for withdrawal. *See generally* U.S. CONST. art. II, § 2.

¹⁷⁴ *See, e.g.*, MULLIGAN, *supra* note 162, at 8–9.

¹⁷⁵ *Id.* at 9 n.70 (citing executive memoranda advising that the President may unilaterally withdraw from international treaties).

¹⁷⁶ *Id.* at 10–12.

son to step into treaty-making decisions or processes, but the Supreme Court did address a challenge by Congressional members to an anticipated presidential treaty withdrawal in *Goldwater v. Carter*.¹⁷⁷ Although the Court split and delivered a plurality opinion, the case was dismissed: the plurality found the issue to be a nonjusticiable political question,¹⁷⁸ with one concurring justice instead finding the issue at hand not ripe for review.¹⁷⁹ Since *Goldwater*, courts have more actively moved to dismiss such disputes between the President and members of Congress as political questions.¹⁸⁰

Therefore, the President can likely choose to withdraw unilaterally from the Outer Space Treaty, much like President Bush unilaterally withdrew from the Anti-Ballistic Missile Treaty.¹⁸¹ To satisfy international law, notice must be given to the governments of Russia and the United Kingdom one year prior to the United States' effective withdrawal date.¹⁸² Because Congress has not enacted legislation enforcing the Outer Space Treaty's restrictions on military activity, no domestic concerns will prevent treaty withdrawal from allowing the Space Force to move forward in pursuing new capabilities.¹⁸³

C. Repercussions of Withdrawal

While the United States need not be concerned about legal repercussions of withdrawing from the Outer Space Treaty, there are

¹⁷⁷ 444 U.S. 996, 997–98 (1979) (plurality opinion) (Powell, J., concurring).

¹⁷⁸ *Id.* at 1002 (Rehnquist, J., concurring) (“I am of the view that the basic question presented by the petitioners in this case is ‘political’ and therefore nonjusticiable because it involves the authority of the President in the conduct of our country’s foreign relations and the extent to which the Senate or the Congress is authorized to negate the action of the President.”).

¹⁷⁹ *Id.* at 997 (Powell, J., concurring) (“Prudential considerations persuade me that a dispute between Congress and the President is not ready for judicial review unless and until each branch has taken action asserting its constitutional authority.”).

¹⁸⁰ *See, e.g., Kucinich v. Bush*, 236 F. Supp. 2d 1, 18 (D.D.C. 2002) (finding a suit by Members of Congress opposing President Bush’s termination of the ABM Treaty to be a nonjusticiable political question and dismissing); *see also* MULLIGAN, *supra* note 162, at 14.

¹⁸¹ *See Kucinich*, 236 F. Supp. 2d at 18.

¹⁸² Outer Space Treaty, *supra* note 3, art. XVI.

¹⁸³ *See All Congressional Information on the Outer Space Treaty*, *supra* note 165.

practical concerns that must be taken into account. Other nations could engage international organizations or simply act by themselves to place political pressure on the United States.¹⁸⁴ Additionally, other nations could increase military focus on space, potentially leading to a new arms race.¹⁸⁵

1. INTERNATIONAL POLITICAL CONCERNS

Two recent events surrounding high-profile arms-reduction treaties illuminate the likely responses to a U.S. withdrawal from the Outer Space Treaty. The first is the United States' unilateral withdrawal from the ABM Treaty.¹⁸⁶ The second is the U.S. withdrawal from the Intermediate Nuclear Forces ("INF") Treaty, officially announced by President Trump on February 1, 2019.¹⁸⁷ Both examples suggest that withdrawal from the Outer Space Treaty could bring some international condemnation but little other action.

In 2002, against the advice of commentators and pundits in the United States, President Bush withdrew from the ABM Treaty.¹⁸⁸ International reaction to the move could be described as mild, at worst: the Russians termed the American decision as "erroneous," but also indicated the decision "does not pose a threat to the national security of the Russian Federation."¹⁸⁹ The Chinese stated opposition to an American ABM system but had no other reactions.¹⁹⁰ Arms control organizations noted that the international reaction was

¹⁸⁴ MULLIGAN, *supra* note 162, at 5.

¹⁸⁵ Kuplic, *supra* note 19, at 1156–58.

¹⁸⁶ MULLIGAN, *supra* note 162, at 14.

¹⁸⁷ *President Donald J. Trump to Withdraw the United States from the Intermediate-Range Nuclear Forces (INF) Treaty*, WHITE HOUSE FACT SHEETS (Feb. 1, 2019), <https://www.whitehouse.gov/briefings-statements/president-donald-j-trump-withdraw-united-states-intermediate-range-nuclear-forces-inf-treaty/> [hereinafter *President Trump to Withdraw US from INF Treaty*].

¹⁸⁸ See Ivo H. Daalder & James M. Lindsay, *Unilateral Withdrawal from the ABM Treaty Is a Bad Idea*, BROOKINGS (Apr. 30, 2001), <https://www.brookings.edu/opinions/unilateral-withdrawal-from-the-abm-treaty-is-a-bad-idea/>.

¹⁸⁹ Terence Neilan, *Bush Pulls Out of ABM Treaty; Putin Calls Move a Mistake*, NEW YORK TIMES (Dec. 13, 2001), <https://www.nytimes.com/2001/12/13/international/bush-pulls-out-of-abm-treaty-putin-calls-move-a-mistake.html>.

¹⁹⁰ *Id.* The Chinese were not signatories to the ABM Treaty. See ABM Treaty, *supra* note 50.

“muted.”¹⁹¹ Domestically, President Bush’s move was met with some criticism,¹⁹² including an unsuccessful lawsuit filed by some members of Congress to prevent the treaty’s termination.¹⁹³ Ultimately, the United States saw very few repercussions and very little opposition to its move to terminate the treaty.¹⁹⁴

The INF Treaty, established in 1987 between the United States and the Soviet Union, banned “ground-launched” medium-range missiles.¹⁹⁵ For years after the fall of the Soviet Union, the Russian military had been accused by the United States and European nations of openly violating the INF Treaty by building up intermediate-range ballistic missiles (“IRBMs”).¹⁹⁶ Although Russian violations were acknowledged at the UN, international pressure on Russia to regain compliance with the INF Treaty repeatedly came to naught.¹⁹⁷ In late 2017, following these repeated attempts to coax the Russians back to compliance, the United States indicated that it would consider withdrawing from the INF Treaty due to the Russian violations.¹⁹⁸ In 2019, after some review, the United States followed through when President Trump announced the country’s pending withdrawal.¹⁹⁹

¹⁹¹ E.g., Wade Boese, *U.S. Withdraws from ABM Treaty; Global Response Muted*, ARMS CONTROL ASS’N, (July/Aug. 2002), <https://www.armscontrol.org/act/2002-07/news/us-withdraws-abm-treaty-global-response-muted>.

¹⁹² See *id.*; Daalder & Lindsay, *supra* note 190.

¹⁹³ *Kucinich v. Bush*, 236 F. Supp. 2d 1 (D.D.C. 2002). As discussed *supra* note 180, the suit failed on jurisdictional grounds.

¹⁹⁴ Boese, *supra* note 191.

¹⁹⁵ Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Elimination of Their Intermediate-Range and Shorter-Range Missiles art. I, Dec. 8, 1987, 1657 U.N.T.S. 485 [hereinafter INF Treaty]; see also *President Trump to Withdraw US from INF Treaty*, *supra* note 187. Intermediate-Range Ballistic Missiles, or IRBMs, were defined as having a range of 310 to 3,400 miles. INF Treaty, *supra*, art. II. The INF Treaty was initially established to remove Soviet and American short- and medium-range nuclear missiles from Europe. Bureau of Arms Control, Verification and Compliance, *The Intermediate-Range Nuclear Forces Treaty*, DEP’T OF STATE, <https://www.state.gov/inf> (last visited Dec. 29, 2019).

¹⁹⁶ Bureau of Arms Control, *supra* note 195; Steven Pifer, *The Future of the INF Treaty*, BROOKINGS (Jan. 25, 2018), <https://www.brookings.edu/testimonies/the-future-of-the-inf-treaty/>.

¹⁹⁷ Pifer, *supra* note 196.

¹⁹⁸ *Id.*

¹⁹⁹ *President Trump to Withdraw US from INF Treaty*, *supra* note 187.

International reaction to the INF Treaty withdrawal has been somewhat less muted, although still hardly strong.²⁰⁰ The Russians indicated that they would respond “accordingly.”²⁰¹ European reaction has been understandably stronger, as Russian IRBMs would be a threat to Europe, rather than to the United States.²⁰² The North American Treaty Organization (“NATO”) and the European Union (“EU”) restated their commitment to not employing IRBMs and indicated that they both saw greater security with the agreement than without, although those comments made no mention of the fact that Russia had already been openly violating the treaty.²⁰³ Some European nations indicated an interest in beginning discussions about a new, more comprehensive arms control agreement to replace the ailing—indeed, now dead—INF Treaty.²⁰⁴ Domestically, reactions ran much the same to withdrawal from the ABM Treaty: many political and national security figures opposed withdrawal, but reactions were not entirely one-sided, with some support for the President’s decision.²⁰⁵

Withdrawal from the Outer Space Treaty would encompass several differences from withdrawal from the ABM or INF Treaties. First, significantly more nations are party to the Outer Space Treaty.²⁰⁶ Second, the Outer Space Treaty covers more than just military technological developments and arms control: it also covers

²⁰⁰ Shervin Taheran, *Select Reactions to the INF Treaty Crisis*, ARMS CONTROL ASSOCIATION (Dec. 14, 2018), <https://www.armscontrol.org/blog/2018/select-reactions-inf-treaty-crisis>.

²⁰¹ *Id.* The Russians likely wanted the United States to tear up the INF Treaty, as the Russian military had already been working to develop and implement weapons that violated the treaty’s provisions. *Id.* While an outright admission of such would be unexpected, the terse Russian reaction seems to be almost as good as such. See Pavel K. Baev, *European Angst About Trump’s INF Treaty Withdrawal*, BROOKINGS (Oct. 29, 2018), <https://www.brookings.edu/blog/order-from-chaos/2018/10/29/european-angst-about-trumps-inf-treaty-withdrawal/> (discussing Russian political leaders’ desires to goad the United States into withdrawing from the INF Treaty).

²⁰² Taheran, *supra* note 200.

²⁰³ *Id.*

²⁰⁴ *Id.*

²⁰⁵ *Id.*

²⁰⁶ Compare Outer Space Treaty, *supra* note 3, with ABM Treaty, *supra* note 50, and INF Treaty, *supra* note 195.

property rights issues and matters of exploration in space.²⁰⁷ Third, the United States cannot claim that another primary signatory is repeatedly and flagrantly violating the treaty's terms as reason to withdraw.²⁰⁸

However, these reasons alone need not stop the United States from acting in its own, and indeed in its allies', interests. Most of the countries that are signatories to the Outer Space Treaty are not physically capable of projecting force into space.²⁰⁹ While international organizations and other signatories may make official statements indicating disapproval with American withdrawal, such actions will not stand in the way of American objectives in withdrawing.²¹⁰ Indeed, international disapproval with such a move could also be a way to bring world leaders together to renegotiate an Outer Space Treaty that allows the United States to defend its satellites effectively, utilize space as necessary for military purposes, and address future human expansion into space in a more adequate manner, all while maintaining restrictions on true WMD in space.²¹¹

2. THE POSSIBILITY OF A SPACE-BASED ARMS RACE

The single greatest concern of any move to increase military activities and capabilities in space is the possibility of kick-starting a new arms race.²¹² The UN has adopted regular resolutions aimed at preventing a space-based arms race,²¹³ although the United States has typically abstained from such resolutions.²¹⁴ Some commentators have called for a reevaluation of the Outer Space Treaty, or even

²⁰⁷ Outer Space Treaty, *supra* note 3, arts. II, III, IX, XI.

²⁰⁸ Baev, *supra* note 201.

²⁰⁹ See HARRISON ET AL., *supra* note 144, at 16–24. Even nations with the desire to develop a space program and ballistic missile capabilities cannot easily project force into space. *Id.*

²¹⁰ See Taheran, *supra* note 200.

²¹¹ See *id.* As the INF Treaty is useless without American or Russian participation, so too would be the Outer Space Treaty. Given the calls to renegotiate the INF Treaty after American withdrawal, a similar reaction could be expected here, and the United States could potentially strike a balance that allows it to better prepare for a conflict in space.

²¹² Kuplic, *supra* note 19, at 1156–58.

²¹³ See, e.g., G.A. Res. 62/20 (Jan. 10, 2008).

²¹⁴ See Kuplic, *supra* note 19, at 1156–58 (discussing the U.S.'s resistance to measures taken by the UN to prevent an outer space arms race). The UN has devoted considerable attention to the issue, even developing a term for the concept:

a new, stronger treaty restricting military activity in and the weaponization of space.²¹⁵

However, this concern has already developed beyond restriction or prevention: current Chinese efforts are beginning to show that space will be a likely next frontier in combat.²¹⁶ China's recent landing of an autonomous exploration vehicle on the dark side of the Moon has distinctly military applications,²¹⁷ and, after China's willingness to continue development of ASAT weapons despite international condemnations of its 2007 test, the United States and the international community cannot ignore the probability that China will be willing to fight in space.²¹⁸ As the INF Treaty proved incapable of preventing Russian development of IRBMs,²¹⁹ so too will the Outer Space Treaty prove incapable of preventing Chinese militarization of space, should China find such actions to be in its own best interests.²²⁰ The United States ignores these developments at its own peril: failure to act in space could leave it outmaneuvered by China.²²¹ Faith in Chinese compliance with the Outer Space Treaty could lead to a devastating result for the United States and its allies in a future war.²²² While the United States' withdrawal from the Outer Space Treaty could directly lead to an outer space arms race, such a conclusion would be preferable to Chinese military domination of the ultimate high ground.

PAROS (Prevention of an Arms Race in Outer Space). *Id.* at 1156. Despite regular UN attention on the issue, the United States has traditionally resisted efforts to restrict military activities in space and should continue to do so today.

²¹⁵ *Id.* at 1158–61.

²¹⁶ Joseph Trevithick, *China's Historic Mission to the Dark Side of the Moon Is About More Than Science*, THEDRIVE (Jan. 3, 2019, 2:35 PM), <http://amp.timeinc.net/thedrive/the-war-zone/25781/chinas-historic-mission-to-the-dark-side-of-the-moon-is-about-more-than-science?source=dam>. Of note, at least one American national security official expressed concerns about the Chinese potentially basing ASAT weapons on the dark side of the moon, where launches would be undetectable without beyond-line-of-sight relays, which the United States currently does not possess. *Id.*

²¹⁷ *Id.*

²¹⁸ *Id.*

²¹⁹ Taheran, *supra* note 200.

²²⁰ Trevithick, *supra* note 216.

²²¹ HARRISON ET AL., *supra* note 144, at 25.

²²² *Id.*

CONCLUSION

The muted international reactions to American withdrawal from the ABM and INF Treaties show that the United States should not let such concerns stand in the way of an effective Space Force. Withdrawal from the Outer Space Treaty makes political and military sense. The United States has a unique opportunity to develop a new military focus on space as the Department of Defense establishes the new Space Force. Without withdrawal from or violations of the Outer Space Treaty, the Space Force will be unable to amount to anything more significant than a restructuring of currently existing capabilities and will do little to improve national security relative to the costs of its creation. Should the United States withdraw, however, the Space Force can provide offensive and defensive military capabilities that no other service can offer and ensure that the United States is able to protect its interests in space as new adversaries, like China, seek to claim the high ground over which the United States has previously held a unique influence.