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The Artemis Accords: Employing Space Diplomacy to De-Escalate a National Security Threat and Promote Space Commercialization

Elya A. Taichman*

“Those who came before us made certain that this country rode the first waves of the industrial revolutions, the first waves of modern invention, and the first wave of nuclear power, and this generation does not intend to founder in the backwash of the coming age of space. We mean to be a part of it—we mean to lead it. For the eyes of the world now look into space, to the Moon and to the planets beyond, and we have vowed that we shall not see it governed by a hostile flag of conquest, but by a banner of freedom and peace. We have vowed that we shall not see space filled with weapons of mass destruction, but with instruments of knowledge and understanding.”

- President John F. Kennedy, Rice University on September 12, 1962.

INTRODUCTION

When Yuri Gagarin soared high above the earth and left its atmosphere, he entered an ethereal and pristine realm that was without law. Dauntless and vast as space was, humans and nation states remained undeterred. Within six years, the United States and the Soviet Union negotiated and ratified what became known as the Outer Space Treaty (“OST”).¹ Despite Cold War tensions, diplomacy prevailed and established the first internationally recognized laws to govern human activity to the edge of the universe. Among its many accomplishments, the OST declared that space exploration was for the benefit of mankind, banned national appropriation in space, and shouldered each state with national responsibility for its non-state actors in

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¹ 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, 610 U.N.T.S. 205 [hereinafter Outer Space Treaty].

space.² However, whether the OST governed private citizens, companies, and other non-state actors remained an open and unsettled question.³

The OST was drafted in the midst of the Cold War, when space flight was in its infancy and the notion of lunar colonies or mining the Moon was the stuff of science fiction. Today, technology has caught up with the imagination. Private investment from companies like SpaceX and Blue Origins have driven significant growth in American space exploration.⁴ Seeking assurance that their investments would not violate domestic law or the OST, these and other space companies lobbied Congress to pass the U.S. Commercial Space Launch Competitiveness Act in 2015 (“Space Act”).⁵ This law allowed corporations and citizens to engage in the commercial exploration and utilization of space resources.⁶

On April 6, 2020, President Trump signed Executive Order 13914, which encourages commercial development in space.⁷ The order stressed that the OST allows resource utilization, that space is not a “global commons,” and that the Secretary of State must negotiate bilateral and multilateral arrangements with other nations on the utilization of space resources.⁸ A month later, the Trump Administration announced a series of ten principles known as the Artemis Accords.⁹ On October 13, 2020, the United States signed the Artemis Accords with eight other nations.¹⁰ The Artemis Accords are a multilateral political

² *Id.* arts. II, IV.

³ Kyle Evanoff, *The Outer Space Treaty’s Midlife Funk*, COUNCIL ON FOREIGN RELS.: THE INTERNATIONALIST (Oct. 10, 2017, 8:00 AM), <https://www.cfr.org/blog/outer-space-treatys-midlife-funk>.

⁴ Steven J. Markovich et al., *Space Exploration and U.S. Competitiveness*, COUNCIL ON FOREIGN RELS.: RENEWING AMERICA (June 10, 2020, 7:00 AM), <https://www.cfr.org/backgroundunder/space-exploration-and-us-competitiveness>.

⁵ Matthew Shaer, *The Asteroid Miner’s Guide to the Galaxy*, FOREIGN POL’Y (April 28, 2016), <https://foreignpolicy.com/2016/04/28/the-asteroid-miners-guide-to-the-galaxy-space-race-mining-asteroids-planetary-research-deep-space-industries/>.

⁶ *See id.*

⁷ Exec. Order No. 13914, 85 Fed. Reg. 20,381 (Apr. 6, 2020).

⁸ *Id.*

⁹ Christian Davenport, *NASA Unveils New Rules to Guide Behavior in Space and on the Lunar Surface*, WASH. POST (May 15, 2020, 2:58 PM), <https://www.washingtonpost.com/technology/2020/05/15/moon-rules-nasa-artemis/>.

¹⁰ NAT’L AERONAUTICS AND SPACE ADMIN., THE ARTEMIS ACCORDS: PRINCIPLES FOR COOPERATION IN THE CIVIL

commitment that establish a system of governance for space activities.¹¹ Ultimately, creating such a system will spur substantial job creation as large companies and small startups in the aerospace industry receive the legal guidance they crave.¹²

It is unclear whether the Artemis Accords violate international law, such as the OST and the Vienna Convention on the Law of Treaties (“VCLT”).¹³ Despite this lack of clarity, the United States and other countries are moving forward with space exploration and plan to develop space law post hoc to justify prior actions. The Artemis Accords serve as the blueprint for this law. However, the Trump Administration engaged neither China nor Russia as it developed a modus operandi in space. To date, the United States has no plans to engage either country.¹⁴ This is a mistake.

Without a strong and enforceable international regime, spacefaring nations are likely to repeat the mistakes of prior eras of exploration – imperialism, arms races, and total war. Currently, the United States has the upper hand in space technology and investment over China and Russia.¹⁵ Before either catch up, the United States should initiate diplomacy to bring them into an Artemis Accords coalition. Simultaneously, the State Department and NASA should pursue bilateral Artemis Accords agreements with as many nations as possible. The resulting coalition will increase pressure on Russia and China to join. If they do not join, the United States will have developed a strong and durable system for outer space resource

EXPLORATION AND USE OF THE MOON, MARS, COMETS, AND ASTEROIDS FOR PEACEFUL PURPOSES (2020) [hereinafter Artemis Accords].

¹¹ *Id.* at 2, § 1.

¹² Shaer, *supra* note 5.

¹³ Vienna Convention on the Law of Treaties, *opened for signature* May 23, 1969, 1155 U.N.T.S. 331 [hereinafter VCLT] (entered into force Jan. 27, 1980). This is known as the “treaty on treaties.”

¹⁴ See, e.g., Mike Wall, *US military to keep wary eye on Chinese and Russian space ambitions under President Biden*, SPACE.COM (Mar. 19, 2021), <https://www.space.com/us-space-policy-china-russia-biden-administration>.

¹⁵ Nicolas Rapp & Brian O’Keefe, *50 Years After the Moon Landing, Money Races into Space*, FORTUNE (July 22, 2019, 6:30 AM), <https://fortune.com/longform/space-program-spending-by-country/>.

exploitation and a coalition of likeminded nations to enforce it. As such, the United States would be able to challenge and, if necessary, thwart a Russo-Chinese counter-system. Though diplomacy will hopefully produce a united international system that aligns with American interests, it would be imprudent not to ready a contingency plan.¹⁶

To reach this conclusion, this paper examines the legal and national security issues the Trump Administration has forced through the Artemis Accords. The first section begins fifty years ago with the ratification of the OST and explores the developments in outer space law that led to the Artemis Accords. The second section considers the issues that inhibit a global consensus on outer space exploration and resource utilization and notes the dangers that lack of consensus will pose. In particular, this section focuses on the dual nature of all outer space technology, bellicose American rhetoric, Russian and Chinese intentions in space, and how these issues each hinder the creation of a stable international system. Finally, the paper concludes by recommending that the United States diplomatically engage Russia and China to bring them into the system the Artemis Accords propose. If successful, this will buttress American power and influence in outer space, boost economic growth and job creation, and bolster American national security.

I. CURRENT LAW

All modern space law is derived from the OST. This section will focus on three of its Articles – I, II, and VI – because they might limit countries and private actors from utilizing space resources. Article I establishes that space exploration is for the benefit of mankind, Article II prohibits national appropriation in outer space, and Article VI ascribes state

¹⁶ *Si vis pacem, para bellum* [If you want peace, prepare for war] (phrase adopted from an ancient treatise, *Rei militaris instituta*, written by fourth-century Roman military expert Flavius Vegetius Renatus). BRITANNICA, VEGETIUS (William L. Hosch ed., last visited Mar. 24, 2021), <https://www.britannica.com/biography/Vegetius#ref74438>.

responsibility for non-state actors engaged in space exploration.¹⁷ Still, many gaps in OST interpretation remain. A brief discussion of the Moon Treaty of 1979 will highlight how its failure to become customary international law means those gaps of interpretation remain. This provides states with significant latitude in their own practice in space.

The section then shifts to a discussion of modern American space law. In 2015, Congress passed the Space Act, which enabled private space exploration despite a lack of international consensus on OST interpretation.¹⁸ The law provided the legal cover and certainty for private companies like SpaceX and Blue Origins to pursue commercial activities in space without fear of international legal reprisal. It also laid the foundation for the Trump Administration's executive order this past April, which further interpreted the OST and concluded that space is not a global commons.¹⁹ A month later, the Administration announced the Artemis Accords.²⁰ Both executive actions demonstrate a desire to quickly move forward with space exploration despite the legal uncertainty and potential prohibition of international law. Unfortunately, while such haste may be commercially expedient, it will prove harmful to national security.

A. The Outer Space Treaty

The OST is the closest the world has come to a constitution of space law. Although space is a vacuum, the OST was not created in a vacuum. Today, 110 nations are party to its terms.²¹ The OST was negotiated, agreed to, and ratified over fifty years ago in the midst of the Cold War. When the treaty became effective in 1967, the Space Age was ten years old, and

¹⁷ Outer Space Treaty, *supra* note 1, arts. I, II, VI.

¹⁸ 51 U.S.C. §§ 51301-03.

¹⁹ Exec. Order No. 13914, 85 Fed. Reg. 20,381.

²⁰ Davenport, *supra* note 9.

²¹ Agreement Governing the Activities of States on the Moon and other Celestial Bodies, U.N.T.S. ONLINE, https://treaties.un.org/Pages/showDetails.aspx?objid=080000028003b946&clang=_en (last visited Apr. 15, 2021).

the United States was still two years away from putting a man on the Moon.²² Fears of nuclear war and mutually assured destruction haunted Americans and Soviets alike. The Soviet's successful launch of Sputnik in 1957 fed American geopolitical fears of a Soviet threat in space.²³ This triggered the Space Race. Although the United States framed the Space Race as a peaceful mission to augment national pride and scientific discovery, both superpowers feared that the other's military would gain the upper hand.²⁴ Thus, the chief concerns that initiated negotiations for a space treaty were how much militarization was acceptable in outer space and how to avoid military conflict in the heavens.²⁵ Upon ratification, the OST reflected an American and Soviet attempt to codify principles to govern these concerns as well as a desire to establish the rules early before other nations caught up.²⁶

Article I of the OST declared that “[t]he exploration and use of outer space . . . shall be carried out for the benefit and in the interests of all countries . . . and shall be the province of all mankind.”²⁷ The negotiators themselves described this language as a “vague principle with no foreseeable application.”²⁸ In fact, the United States only agreed to this language because there were no specific references to property or economic rights.²⁹ When the Senate debated the treaty's ratification, the American Ambassador to the UN and chief American negotiator

²² Outer Space Treaty, *supra* note 1; *see also* NAT'L AERONAUTICS AND SPACE ADMIN., THE FIRST PERSON ON THE MOON (Shelley Canright ed., Apr. 9, 2009), <https://www.nasa.gov/audience/forstudents/k-4/stories/first-person-on-moon.html>.

²³ HISTORY, SPUTNIK LAUNCHED (Oct. 2, 2020), <https://www.history.com/this-day-in-history/sputnik-launched>.

²⁴ The Kennedy and Johnson Administrations were responsible for a shift from the more sober and realistic posturing of the Eisenhower Administration in space to this idealistic rhetoric. WALTER A. MCDUGALL, ...THE HEAVENS AND THE EARTH: A POLITICAL HISTORY OF THE SPACE AGE 418–20 (1985).

²⁵ *Id.*

²⁶ *Id.* at 419.

²⁷ Outer Space Treaty, *supra* note 1, art. I.

²⁸ MCDUGALL, *supra* note 24, at 419.

²⁹ *Id.* It is worth noting that Brazil, acting on behalf of its fellow Third World countries, initiated and pushed the “benefit of mankind” language. Although the United States agreed to it, subsequent American behavior demonstrated that the United States did not see itself treaty bound to directly share in the resources and spoils of outer space.

for the OST, Arthur Goldberg, explained this language was a “goal subject to further refinement.”³⁰ Goldberg later clarified that this language was intended as a “freedom of the seas clause” and nothing more.³¹ Professor Walter McDougall, a Pulitzer Prize-winning historian on the Space Age, concluded that Article I “did not oblige parties to the treaty to share their technology or its fruits with others: no ‘international socialism’ in space.”³²

Article II of the treaty dealt with territorial claims. It stated, “Outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.”³³ In short, even though the United States planted the stars and stripes on the Moon within two years of OST ratification, it could not claim the Moon, nor any section of the Moon, as its own sovereign territory.

Finally, Article VI required all parties to the treaty to “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.”³⁴ In addition, all parties must authorize and continuously supervise any activities of non-government entities in outer space.³⁵

In light of Articles II and VI, whether citizens and corporations may appropriate territory in outer space and the extent to which citizens and corporations may exploit space resources are still subject to international debate. A common interpretation of Article VI is that

³⁰ *Id.* at 418.

³¹ *Id.*

³² *Id.*

³³ Outer Space Treaty, *supra* note 1, art. II.

³⁴ *Id.* art. VI.

³⁵ *Id.*

non-state entities have wide latitude so long as there is a “national scheme for licensing private space operators and subjecting them to relevant obligations and procedures.”³⁶ However, some scholars argue that if states may not appropriate territory in space, then they lack the authority to authorize non-state entities to do the same.³⁷

Importantly, Article VI only applies to “national activities.”³⁸ However, it is not clear whether this encompasses actions by commercial actors. If SpaceX establishes a base on the Moon for lunar mining, or if Blue Origins does the same, are those national activities? Certainly, any rockets launched into space require authorization from the Federal Government.³⁹ What about when NASA or the Department of Defense (“DoD”) team up with SpaceX in a public-private partnership? Indeed, SpaceX just completed a mission to ferry two NASA astronauts to and from the International Space Station (“ISS”).⁴⁰ Additionally, SpaceX and United Launch Alliance (a joint venture between Boeing and Lockheed Martin) just received a DoD contract worth hundreds of millions of dollars to launch military and intelligence satellites for the Space Force.⁴¹ Further, under its Small Business Innovation Research and Small Business Technology Transfer programs, NASA awarded ten grants, each

³⁶ Frans G. von der Dunk, *Asteroid Mining: International and Legal Aspects*, 26 MICH. ST. INT’L L. REV. 83, 87 (2017).

³⁷ Compare P.M. Sterns & L.I. Tennen, *Privateering and Profiteering on the Moon and Other Celestial Bodies: Debunking the Myth of Property Rights in Space*, 31 ADVANCES IN SPACE RSCH. 2433, 2435-36 (2003) with *Johnson v. M’Intosh*, 21 U.S. 543, 584-86 (1823) (holding that only the federal government had the power to transfer real property rights to citizens).

³⁸ Outer Space Treaty, *supra* note 1, art. VI.

³⁹ 51 U.S.C. § 50904 (2020). (“A license issued or transferred under this chapter [51 USCS §§ 50901 et seq.], or a permit, is required for the following: for a person to launch a launch vehicle or to operate a launch site or reentry site, or to reenter a reentry vehicle, in the United States”).

⁴⁰ Jackie Wattles, *How SpaceX and NASA Overcame a Bitter Culture Clash to Bring Back U.S. Astronaut Launches*, CNN BUS. (Aug. 10, 2020, 1:45 PM), <https://www.cnn.com/2020/08/09/business/spacex-nasa-astronaut-launch-demo-2-culture-clash-scn/index.html>.

⁴¹ Dave Mosher, *How SpaceX Outmaneuvered Blue Origin and Other Rivals to Clinch a Prized Space Force Launch Agreement Worth Billions*, BUS. INSIDER (Aug. 11, 2020, 3:40 PM), <https://www.businessinsider.com/spacex-wins-space-force-rocket-launch-nssl-agreement-40-percent-2020-8>.

worth \$125,000 to “develop technologies for in-situ resource utilization.”⁴² These technologies will enable astronauts to extract and process lunar ice to create water, oxygen, and rocket fuel.⁴³ The OST never explicitly contemplated commercial activities like asteroid or lunar mining because in the 1960s those technologies were far flung fantasies.⁴⁴ Now they are real. But the meaning and application of the “constitution of space law” remains misty. Therefore, to interpret the OST, it is essential to examine state practice and *opinio juris*.

Once again, context matters. On March 13, 1967, in a letter to Senator Clinton Anderson, James Gehrig, Chief of Staff on the Senate Space Committee throughout the debate on the OST, explained “most of the policies established [in the OST] are U.S. policies . . . In not too many years many nations will be in space. It is to the advantage of the US to establish space law now.”⁴⁵ The United States and the Soviet Union, as the preeminent space powers, were eager to codify space law to suit their interests as superpowers before other nations possessed the technological clout to interfere and participate in lawmaking.⁴⁶ For the United States this was especially urgent because, at this point, its space program outstripped that of the Soviets.⁴⁷

Though lacking in specifics, the OST aimed to create a regime in which space exploration could flourish. Article IV of the OST banned nuclear weapons in space and military bases on the Moon, which prevented an imperialistic race to claim American or Soviet zones on the Moon.⁴⁸ Moreover, though it would have benefitted non-spacefaring nations,

⁴² Douglas Messier, *NASA Selects 10 Small Business Proposals for Lunar ISRU*, PARABOLIC ARC (July 9, 2020), <http://www.parabolicarc.com/2020/07/09/nasa-selects-10-small-business-proposals-for-lunar-isru/>.

⁴³ *Id.*

⁴⁴ Von der Dunk, *supra* note 36, at 85.

⁴⁵ MCDUGALL, *supra* note 24, at 525, n.27.

⁴⁶ *Id.* at 419.

⁴⁷ *Id.* Interestingly, the same holds true today with, except that American space capabilities and investment outstrip those of Russia and China combined.

⁴⁸ Outer Space Treaty, *supra* note 1, art. II.

Article I avoided establishing the Moon and outer space as a global commons that belonged to all. Instead, it simply included that space exploration was for the benefit of mankind, which the negotiators described as a “vague principle with no foreseeable application.”⁴⁹ Vague was good. It enabled Americans and Soviets to continue technological development and space exploration without sharing these advances with less developed nations or worrying about property rights. McDougall concluded that the OST was a facade under which “governments pretend[ed] to regulate the growth of space technology while it was still in its infancy.”⁵⁰ Space technology was developing rapidly, far more rapidly than international legal committees at the UN could accommodate.⁵¹ As technology changed, so could the rules. For the OST “the spirit, not the letter, was the essence.”⁵² However, since the Moon Treaty failed to update the OST, gaps in OST interpretation remain to this day.

B. The Moon Treaty: A Failed Attempt

Signed in 1979 by only four states, the Moon Treaty tried to pick up where the OST left off.⁵³ Article XI of the Moon Treaty declared that the Moon was the “common heritage of mankind.”⁵⁴ It then stated that the Moon, its surface, and its subsurface cannot become the property of any state or “non-governmental entity or of any natural person.”⁵⁵ However, unlike the OST, the Moon Treaty explicitly contemplated commercial activities on the Moon because the next sentence explained, “placement of personnel, space vehicles, equipment, facilities, stations and installations on or below the surface of the moon . . . shall not create a right of

⁴⁹ MCDUGALL, *supra* note 24, at 419.

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² *Id.* at 420.

⁵³ Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, *opened for signature* Dec. 18, 1979, 1363 U.N.T.S. 21 [hereinafter Moon Treaty] (entered into force Jul. 11, 1984).

⁵⁴ *Id.*, art. XI, ¶ 1.

⁵⁵ *Id.* art. XI, ¶ 3.

ownership over the surface or the subsurface of the moon or any areas thereof.”⁵⁶ Indeed, signatories to the treaty agreed to establish an “international regime, including appropriate procedures, to govern the exploitation of the natural resources of the moon as such exploitation is about to become feasible.”⁵⁷

But the Moon Treaty failed! Today, only eighteen nations are party to its terms, and over forty years after its creation, lunar resource exploitation is still not quite feasible.⁵⁸ Nevertheless, the treaty matters precisely because it failed. Since it was meant to clarify holes in the OST, its resounding rejection by the major spacefaring nations “is itself subsequent practice that can help interpret ambiguous provisions of the Outer Space Treaty.”⁵⁹ Since most nations of the world rejected the principles of the Moon Treaty that clarified the OST, the OST remains vague with substantial room for interpretation. However, it is abundantly clear that the OST does not definitively prohibit non-state actors from obtaining property rights on the Moon. To date, there is still no treaty or customary international law that explains the rules for private actors in space.⁶⁰

C. U.S. Commercial Space Launch Competitiveness Act of 2015 (“Space Act”): The Dawn of the Second Space Age

Until recently, it did not matter that the OST was unclear, and the Moon Treaty failed to garner support. Space exploration remained the province of state actors like NASA because the sheer expense of rocketry and other technologies remained beyond the reach of private corporations and investors throughout the twentieth century.⁶¹ However, over the last two

⁵⁶ *Id.* art. XI, ¶ 5.

⁵⁷ *Id.*

⁵⁸ U.N.T.S. ONLINE, *supra* note 21.

⁵⁹ Melissa Durkee, *Interstitial Space Law*, 97 WASH. UNIV. L. REV. 423, 459 (2019).

⁶⁰ It is worth noting that France and India, both of whom have space programs, are party to the Moon Treaty. However, it is hard to argue that with 18 total nations agreeing to its terms, and without the big three spacefaring nations – the United States, Russia, and China – that the Moon Treaty has become customary international law.

⁶¹ Steven J. Markovich et al., *Space Exploration and U.S. Competitiveness*, COUNCIL ON FOREIGN RELS. (Feb. 23,

decades the industry has changed rapidly. In the United States alone, several of the most innovative companies have invested in space exploration technology.⁶² As the research accelerates, costs have decreased, and the potential for profits is tremendous – in 2018 the space economy was \$360 billion.⁶³ By 2040, its estimated worth is anywhere between \$1.1 trillion and \$1.7 trillion.⁶⁴ However, investors demand certainty, and the uncertainty surrounding OST interpretation was reason to pause.⁶⁵ After all, no investor or company wanted to pour millions, or even billions, into a company designed to mine liquid ice on the Moon only to discover that this violated international law and that the United States had decided to stop licensing such ventures.

Just as President Eisenhower feared, the military-industrial complex, augmented by private industry, lobbied Congress heavily to reduce regulatory hurdles and legal uncertainty in space investment.⁶⁶ In 2015, their efforts bore fruit when Congress passed the Space Act, which President Obama signed into law.⁶⁷ Chapter 513 of Subtitle V – “Space Resource Commercial Exploration and Utilization” – was the shift that enabled the American private space industry to flourish. This affirmed that American citizens could own and sell any “space resources” that were obtained through “commercial recovery.”⁶⁸ In one stroke, Congress

2021, 7:00 AM), <https://www.cfr.org/backgrounder/space-exploration-and-us-competitiveness>.

⁶² Marc Vartabedian, *Space Startups See Big Payouts in New Push to the Moon*, WALL ST. J. (July 14, 2019, 9:26 PM) https://www.wsj.com/articles/space-startups-see-big-payouts-in-new-push-to-the-moon-11563153990?mod=article_inline; see also Erik Sofge, *The World’s Top 10 Most Innovative Companies In Space*, FAST CO. (Apr. 1, 2014), <https://www.fastcompany.com/3026685/the-worlds-top-10-most-innovative-companies-in-space>.

⁶³ BRYCE: SPACE & TECH., 2018 GLOBAL SPACE ECONOMY (2018), <https://brycetech.com/>.

⁶⁴ Adam Jonas, *The New Space Economy*, MORGAN STANLEY: THE MORGAN STANLEY MINUTE, <https://www.morganstanley.com/morgan-stanley-minute/space-economy?vid=6058386536001> (last visited Apr. 15, 2021).

⁶⁵ See Mike Wall, *New Space Mining Legislation Is 'History in the Making'*, SPACE.COM (Nov. 20, 2015), <https://www.space.com/31177-space-mining-commercial-spaceflight-congress.html>.

⁶⁶ Durkee, *supra* note 59, at 461.

⁶⁷ *Summary of H.R.2262 – U.S. Commercial Space Launch Competitiveness Act*, CONGRESS.GOV, <https://www.congress.gov/bill/114th-congress/house-bill/2262> (last visited Apr. 15, 2021).

⁶⁸ 51 U.S.C. § 51303.

guaranteed property rights to American citizens and companies on a “first come, first served basis.”⁶⁹ Moreover, American courts would not permit foreign lawsuits accusing entrepreneurs and businesses of violating the OST.⁷⁰ The law also required the executive branch to “discourage government barriers” to development and for regulation to “facilitate commercial utilization” in space.⁷¹ Finally, it required the President to promote the interest of the American space industry.⁷² Ever wary of the ambiguities of the OST, and likely out of concern that the Space Act might violate the treaty, the law included a disclaimer that it was the sense of Congress that nothing in the Space Act asserted American sovereignty over any celestial body.⁷³ This disclaimer should be read as *opinio juris* of American interpretation of the OST.

In 1967, the United States and the Soviet Union shared a concern that other nations would challenge their technological preeminence in space.⁷⁴ In 2015, this proved no different, except, this time, the United States was alone in its preeminence. Russia, in fact, strongly objected and claimed that the Space Act violated international law.⁷⁵ Russia submitted an objection to the United Nations Committee on the Peaceful Uses of Outer Space (“COPUOS”), claiming the Space Act demonstrated “total disrespect for international law order [sic].”⁷⁶

⁶⁹ Von der Dunk, *supra* note 36, at 94.

⁷⁰ *Id.* at 94-95.

⁷¹ H.R. Rep. No. 114–119, at 9 (2015).

⁷² 51 U.S.C. § 51302.

⁷³ U.S. Commercial Space Launch Competitiveness Act, Pub. L. 114–90, §403, 129 Stat. 704, 722 (“It is the sense of Congress that by the enactment of this Act, the United States does not thereby assert sovereignty or sovereign or exclusive rights or jurisdiction over, or the ownership of, any celestial body.”).

⁷⁴ Jason Krause, *The Outer Space Treaty Turns 50. Can it Survive a New Space Race?*, ABA J. (Apr. 1, 2017, 5:00 AM), https://www.abajournal.com/magazine/article/outer_space_treaty.

⁷⁵ UN, Comm. on the Peaceful Uses of Outer Space, Scientific and Technical Subcommittee: *Reviewing opportunities for Achieving the Vienna Consensus on Space Security Encompassing Several Regulatory Domains*, Working Paper Submitted by the Russian Federation, U.N. Doc. A/AC.105/C.1/2016/CRP.15 (Feb. 16, 2016) [hereinafter Russian Complaint].

⁷⁶ *Id.* ¶ 7.

Russia went on to declare that this law manifested a “doctrine of domination in outer space.”⁷⁷

Nonetheless, a careful reading of Russia’s complaint to COPUOS elucidates that Russia never actually asserted that the United States violated the OST.⁷⁸ To be sure, Russia came as close as possible to this, but never outright said it.⁷⁹ Indeed, the Russians lag behind in investment in outer space and technology and fear American exploitation of space’s vast resources in space without their participation.⁸⁰ American private investment has accelerated this gap with NASA paying companies like SpaceX \$55 million per seat to ferry astronauts to the ISS instead paying the Russians more than \$90 million to do the same.⁸¹ In fact, in its objection to the Space Act, Russia stated that the United States “could propose discussing the possibility to reach uniform understanding of the status of resources and set forth the structure of the doctrine that would include safety and security aspects.”⁸² It seems Russia is pining for its prior role of crafting space law with the United States. This also suggests that if Russia had the same capabilities as the United States, its policy would likely be comparable.⁸³

Conversely, Luxemburg and the United Arab Emirates, both small but wealthy states, have passed legislation similar to the Space Act.⁸⁴ Although both states lack the experience and infrastructure of larger space powers, both have the liquidity to make long term financial bets with potential for handsome returns.⁸⁵ As a tax heaven, Luxembourg hopes to attract a

⁷⁷ *Id.*

⁷⁸ *Id.* at 1–20.

⁷⁹ *See generally id.*

⁸⁰ Matthew Bodner, *60 years after Sputnik, Russia is lost in space*, SPACENEWS (Oct. 4, 2017), <https://spacenews.com/60-years-after-sputnik-russia-is-lost-in-space/> (“It remains unclear just how Roscosmos intends to compete with the rise of Western commercial launch companies, which are already eroding Russia’s traditionally dominant share of the commercial launch market.”).

⁸¹ Jamie Carter, *Despite SpaceX Success NASA Will Pay Russia \$90 Million To Take U.S. Astronaut To The ISS*, FORBES (June 3, 2020, 10:00 PM), <https://www.forbes.com/sites/jamiecartereurope/2020/06/03/despote-spacex-success-nasa-will-pay-russia-90-million-to-take-us-astronaut-to-the-iss/#364c9ba8eacb>.

⁸² Russian Complaint, *supra* note 75, ¶ 7.

⁸³ *See Von der Dunk, supra* note 36, at 98.

⁸⁴ *Id.* at 96.

⁸⁵ *See, e.g.,* Justin Calderon, *The Tiny Nation Leading a New Space Race*, BBC: FUTURE (July 16, 2018),

multinational collection of space entrepreneurs and share in their profits.⁸⁶ For the UAE, space is an opportunity to also profit while diversifying its oil-dependent economy.⁸⁷

D. Trump Executive Order

The Trump Administration has demonstrated a strong interest in outer space.⁸⁸ In 2017, it reestablished the National Space Council, and in 2019 it created the Space Force.⁸⁹ In February 2020, the Administration proposed a 12% increase to NASA's budget.⁹⁰ On April 6, 2020, President Trump issued an Executive Order titled Encouraging International Support for the Recovery and Use of Space Resources.⁹¹ The order dictated that space is not a global commons, and that it is official U.S. policy to “encourage international support for the public and private recovery and use of resources in outer space, consistent with applicable law.”⁹² Importantly, the Executive Order required the Secretary of State to “negotiate joint statements and bilateral and multilateral arrangements with foreign states regarding safe and sustainable operations for the public and private recovery and use of space resources.”⁹³ This appears to

<https://www.bbc.com/future/article/20180716-the-tiny-nation-leading-a-new-space-race>.

⁸⁶ Atossa Araxia Abrahamian, *How a Tax Haven is Leading the Race to Privatise Space*, THE GUARDIAN (Sept. 15, 2017, 12:59 AM), <https://www.theguardian.com/news/2017/sep/15/luxembourg-tax-haven-privatise-space> (noting that Luxembourg seeks to use its unique tax provisions to attract foreign investors).

⁸⁷ See Karrem Shaheen, *First Mars Mission From UAE Aims to Inspire a New Generation of Space Scientists*, NAT'L GEOGRAPHIC (July 20, 2020), <https://www.nationalgeographic.com/science/2020/07/uae-mars-mission-hope-aims-inspire-new-generation-space-scientists/> (“[Space] reflects a broader ambition in the UAE to . . . diversify the economy of the tiny but oil-rich nation.”).

⁸⁸ See *President Donald J. Trump is Unveiling an America First National Space Strategy*, DONALD J. TRUMP WHITE HOUSE (Mar. 23, 2018), <https://aerospace.csis.org/wp-content/uploads/2018/09/Trump-National-Space-Strategy.pdf>; see also Christian Davenport, *For Trump and NASA, the Stakes Are Enormous for Upcoming Flight with Crew*, WASH. POST (May 24, 2020, 3:47 PM), <https://www.washingtonpost.com/technology/2020/05/23/trump-spacex-launch-politics/>; W.J. Hennigan, *America Really Does Have a Space Force. We Went Inside to See What It Does*, TIME (July 23, 2020, 5:54 AM), <https://time.com/5869987/spaceforce/> (describing and mocking how President Trump suggested that “First Lady and former model Melania Trump should help design Space Force uniforms because of her impeccable fashion sense.”).

⁸⁹ Helene Cooper, *Trump Signs Order to Begin Creation of Space Force*, N.Y. TIMES (Feb. 19, 2019), <https://www.nytimes.com/2019/02/19/us/politics/trump-space-force.html>.

⁹⁰ Andy Pasztor, *Trump's NASA Budget Will Earmark 12% Boost for Agency in 2021*, WALL ST. J. (Feb. 7, 2020, 5:30 AM), <https://www.wsj.com/articles/trumps-nasa-budget-will-earmark-12-boost-for-agency-in-2021-11581071402>.

⁹¹ Exec. Order No. 13914, 85 Fed. Reg. 20,381 (Apr. 6, 2020).

⁹² *Id.* § 1.

⁹³ *Id.* § 3.

fulfill the Space Act’s requirement that the President promote American interests in space internationally.

E. The Artemis Accords

Almost immediately after Trump issued his Executive Order, the administration released the Artemis Accords.⁹⁴ The Trump Administration presented these Accords as a series of principles that NASA drafted to “govern[] . . . the civil exploration and use of outer space” as the country prepares to return to the Moon under the Artemis Program.⁹⁵ Using these principles as a blueprint, the U.S. State Department, together with NASA, aimed to negotiate a series of bilateral accords with other nations who wish to join the United States in returning to and in participating in commercial opportunities on the Moon.⁹⁶ However, NASA and the U.S. State Department seemed concerned that the Artemis Accords violated the OST because one of the principles, Space Resources, affirms that the “Artemis Accords reinforce that space resource extraction and utilization can and will be conducted under the auspices of the Outer Space Treaty, with specific emphasis on Articles II, VI, and XI.”⁹⁷ This disclaimer is quite similar to the one found in the Space Act.

On October 13, 2020, the United States signed the first agreements of the Artemis Accords with seven other nations: Australia, Canada, Italy, Japan, Luxembourg, United Arab

⁹⁴ Ashley Strickland, *NASA's New Artemis Accords Govern How We Cooperatively and Safely Explore the Moon and Mars*, CNN (May 18, 2020, 5:05 PM), <https://www.cnn.com/2020/05/18/us/nasa-artemis-accords-scen-trnd/index.html>.

⁹⁵ Artemis Accords, *supra* note 10, § 1.

⁹⁶ See Joey Roulette, *Exclusive: Trump Administration Drafting 'Artemis Accords' Pact for Moon Mining – Sources*, REUTERS (May 5, 2020, 4:04 PM), <https://www.reuters.com/article/us-space-exploration-moon-mining-exclusi/exclusive-trump-administration-drafting-artemis-accords-pact-for-moon-mining-sources-idUSKBN22H2SB>.

⁹⁷ Artemis Accords, *supra* note 10; see Outer Space Treaty, *supra* note 1, art. XI (“In order to promote international co-operation in the peaceful exploration and use of outer space, States Parties to the Treaty conducting activities in outer space, including the Moon and other celestial bodies, agree to inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of the nature, conduct, locations and results of such activities. On receiving the said information, the Secretary-General of the United Nations should be prepared to disseminate it immediately and effectively.”).

Emirates, and the United Kingdom.⁹⁸ On November 15, 2020, Ukraine signed on, bringing the coalition to nine members.⁹⁹ Importantly, the Artemis Accords state that they are a political commitment, which renders them non-binding in the context of international law.¹⁰⁰ In an interview with the *Washington Post*, NASA Administrator Jim Bridenstine explained that the accords are “intended to create norms of behavior that all countries can agree to so that we can keep peace and prosperity moving forward in space and avoid any kind of confusion or ambiguity that can result in conflict.”¹⁰¹ In a press release, Bridenstine added, “Artemis will be the broadest and most diverse international human space exploration program in history . . . [They] are the vehicle that will establish this singular . . . global coalition . . . [W]e are uniting with our partners to explore the Moon and are establishing vital principles that will create a safe, peaceful, and prosperous future in space for all of humanity to enjoy.”¹⁰²

NASA made clear that these agreements adhere to and build on the principles of the OST.¹⁰³ Bridenstine clarified, “There is nothing in the Artemis Accords that isn’t enshrined in the Outer Space Treaty. It’s a forcing function to get nations to comply with the Outer Space Treaty.”¹⁰⁴ Mike Gold, NASA’s Associate Administrator for the Office of International and Interagency Relations, who was a leader in negotiating these agreements, offered, “Precedent is important. By embracing our values, along with our partners, we’re creating a track record, a norm of behavior that will influence the entire world to proceed with the transparent, peaceful

⁹⁸ *NASA, International Partners Advance Cooperation with First Signings of Artemis Accords*, NAT’L AERONAUTICS AND SPACE ADMIN. (Oct. 13, 2020), <https://www.nasa.gov/specials/artemis-accords/img/Artemis-Accords-signed-13Oct2020.pdf>.

⁹⁹ *Ukraine ninth country to sign Artemis Accords*, SPACE WATCH (Nov. 15, 2020), <https://spacewatch.global/2020/11/ukraine-ninth-country-to-sign-artemis-accords/>.

¹⁰⁰ Artemis Accords, *supra* note 10, § 1.

¹⁰¹ Christian Davenport, *Seven Nations Join the U.S. in Signing the Artemis Accords, Creating a Legal Framework for Behavior in Space*, WASH. POST (Oct. 13, 2020, 12:45 PM), <https://www.washingtonpost.com/technology/2020/10/13/artemis-moon-mining-agreement-signed/>.

¹⁰² NAT’L AERONAUTICS AND SPACE ADMIN., *supra* note 98.

¹⁰³ Davenport, *supra* note 101.

¹⁰⁴ *Id.*

and safe exploration of space.”¹⁰⁵ Clearly, NASA hopes the Artemis Accords will crystalize into norms and update the nearly-antiquated OST.

However, not all nations were pleased.¹⁰⁶ Dmitry Rogozin, the head of the Russian space agency Roscosmos, declared that Russia was unlikely to join the Artemis Accords coalition because it was “too U.S.-centric.”¹⁰⁷ He unfavorably compared the Artemis Accords agreement with the approach the United States has taken with the ISS.¹⁰⁸ Rogozin stated, “[t]he most important thing here would be to base this program on the principles of international cooperation that, which were used in order to fly ISS. If we could get back to considering making these principles as the foundation of the program then Roscosmos would also consider its participation.”¹⁰⁹ Bridenstine retorted, “the Gateway uses the exact same international agreement, the IGA, that the International Space Station uses. [NASA has] shared with Roscosmos what we would like to do with the Gateway in terms of collaborating with them and seeing what they’re interested is, and we just haven’t heard back.”¹¹⁰

Experts anticipate the Artemis Accords will increase already tense competition in space between China and the United States.¹¹¹ Zhao Lijian, China’s Foreign Ministry Spokesman, responded, “China has always been committed to the peaceful use of outer space. The exploration and peaceful use of outer space is a common cause for all mankind and should be for the benefit of all mankind.”¹¹² Lijian’s pronouncement echoes the language of Article I of

¹⁰⁵ *Id.*

¹⁰⁶ *See id.* (“[N]ot all nations have reacted favorably to the agreements, or the lunar plan.”).

¹⁰⁷ *Id.*

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

¹¹⁰ *Id.*

¹¹¹ Liu Zhen, *China, U.S. Space Rivalry May Heat Up After Nasa’s Artemis Accords Signed, Analysts Say*, YAHOO! NEWS: SOUTH CHINA MORNING POST (Oct. 16, 2020, 12:00 AM), <https://Malaysia.news.yahoo.com/china-us-space-rivalry-may-143126199.html>.

¹¹² *Id.*

the OST. He added that any discussion of a legal framework in space should be achieved via the United Nations and in compliance with the OST.¹¹³ Ni Lexiong, a military commentator based in Shanghai, said Beijing would be concerned with the United States attempting to set international rules with a “small group of allies.”¹¹⁴ Ni concluded, “So international relations on Earth, including the rivalry and conflicts between nations, will inevitably be brought to the moon.”¹¹⁵ Interestingly, Zhao Tong, a senior fellow at the Carnegie-Tsinghua Centre for Global Policy, explained that “China traditionally believes that space exploration or moon missions are done by state actors. From a nation’s point of view, there will always be concerns over questions of sovereignty and security.”¹¹⁶ However, Zhao acknowledged that the Artemis Accords will give American companies an advantage in commercial exploitation lunar resources, an area where China is lagging behind.¹¹⁷

II. REASONS FOR CHANGE

The Artemis Accords are a culmination of American space policy to enable commercialization of outer space. However, they pose a variety of problems. To start, any future agreements under the accords may violate international law – both the OST and the VCLT. While the Trump Administration appears willing to ignore this issue, violating international law is a dangerous precedent and should be avoided.¹¹⁸ Further, the dual nature of all space technology means that any commercial activity in space that the Artemis Accords enable could readily be converted for belligerent purposes.¹¹⁹ This would both violate

¹¹³ *Id.*

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ *Id.*

¹¹⁷ *Id.*

¹¹⁸ Roulette, *supra* note 96.

¹¹⁹ See Cecelia Smith-Schoenwalder, *Pence: Space is a War-Fighting Domain*, US NEWS (May 6, 2019), <https://www.usnews.com/news/national-news/articles/2019-05-06/mike-pence-space-is-a-war-fighting-domain>.

international law and threaten national security. Despite these inherent dangers, the Trump Administration has maintained a bellicose rhetoric on its space policy.¹²⁰ Although American technology and investments surpass those of Russia and China, such rhetoric serves to inflame already tense relations. Russia and China are each pursuing their own space programs which threaten national security interests, but the United States has engaged neither in Artemis Accords diplomacy.¹²¹

A. *Violations of International Law?*

At best, future Artemis Accords agreements exist in a gray area of international law. After all, the Moon Treaty failed to update and clarify the gaps in the OST on space exploration and resource exploitation by non-state actors. The Space Act and the Artemis Accords together represent American state practice and *opinio juris* as to the meaning of the OST. At worst, the Trump Administration would be blatantly and knowingly violating international law, in particular the ban on national appropriation. Certainly, the Artemis Accords signal a willingness to push international law to the limit, if not to step over the line.

In addition to potentially violating the OST, the Artemis Accords may also violate the

¹²⁰ Mike Wall, *Trump Signs Directive to Create a Military Space Force*, SPACE.COM (Feb. 21, 2019), <https://www.space.com/president-trump-space-force-directive.html>.

¹²¹ This policy proposal does not consider the issue of attributed lawmaking. This idea, which Melissa Durkee has thoroughly researched and written on, explains “[w]hen the behavior of private actors becomes attributed or imputed to the state, that behavior itself has law-forming implications.” Durkee, *supra* note 59, at 443. Because Article VI of the OST attributes responsibility to a state for any actions its non-state actors take in space that those actions become “state practice” when interpreting treaties or in forming customary international law. *Id.* Durkee calls this activity subsequent practice under the Vienna Convention on the Law of Treaties Article 31 3(b), May 23, 1969, 1155 U.N.T.S. 331 (entered into force Jan. 27, 1980). However, Durkee is assuming that that all non-state action is automatically “national activity” under Article VI. Of course, this is concerning because it empowers private companies to craft American policy without approval from the State Department, NASA, or Congress. As Durkee explains, “On a realpolitik level, those private actors can nudge the law toward their preferred interpretations by simply acting as though their preferred rules were already law. Because states make uncodified law by actual practice and belief, rather than a process of multilateral lawmaking, private entities can place states in reactive postures, greatly increasing the likelihood that their chosen rules will prevail.” *Id.* at 473. Because space technology is inherently dual purpose, this embodies President Eisenhower’s immense fear of the military-industrial complex controlling the levers of power in Washington. Laws and norms that affect national security interests should not be decided by corporations which answer to profits and shareholders.

VCLT. Though the United States has not ratified the VCLT, the “treaty on treaties” is customary international law and thus binding on all states. Article 41 of the VCLT permits two or more parties to a treaty to make bilateral, inter-se agreements or to modify a treaty among themselves.¹²² Yet, if these side deals are “incompatible with the effective execution of the *object and purpose* of the treaty as a whole” then the VCLT forbids them.¹²³ NASA made clear that bilateral Artemis Accords agreements with other nations will be “grounded in the Outer Space Treaty” and that resource utilization will be conducted under the “auspices of the Outer Space Treaty.”¹²⁴ Therefore, the United States appears ready to create bilateral, inter-se agreements every time it signs an Artemis Accords agreement. Because Article II of the OST clearly bans national appropriation, licensing non-state actors to create mining colonies on the Moon in safety zones verges on appropriation, especially when coupled with Article VI’s responsibility clause based on national activity.¹²⁵ Overall, the Administration advances on very uneven legal footing, which is further compounded by the fact that space technologies are inherently dual purpose.

B. Dual Purpose

Any technology – from rocketry, to satellites, to mining equipment – introduced into space is inherently dual purpose. That is, it may readily be converted to military uses. The OST makes clear that nuclear weapons are prohibited in space. It also completely demilitarizes the Moon, under Article IV.¹²⁶ However, military personnel may participate in scientific research or other peaceful purposes – i.e., commercial ones.¹²⁷ Hence, from a national security

¹²² VCLT, *supra* note 13, art. 41(1).

¹²³ *Id.* art. 41(1)(b)(ii) (emphasis added).

¹²⁴ Artemis Accords, *supra* note 10.

¹²⁵ Outer Space Treaty, *supra* note 1, arts. II, IV.

¹²⁶ *Id.* art. IV.

¹²⁷ *Id.*

standpoint it would be legal for other rival nations, namely Russia and China, to create lunar bases or asteroid mines. But should conflict arise, such technology and infrastructure could readily be turned hostile and harnessed against American infrastructure in space. This is troubling because for a country like China there is no obvious distinction between public and private industry.¹²⁸ And from China’s perspective, NASA is still teaming up with SpaceX in public-private partnerships and the DoD has many of similar agreements as well. In fact, in its 2020 Defense Space Strategy, the DoD proclaimed its eagerness to “[l]everage commercial technological advancements and acquisition processes.”¹²⁹

An incident with Russia highlights the dangers of dual-purpose space technologies. On November 26, 2019, Russia launched what appeared to be a single satellite.¹³⁰ Eleven days later the single satellite “birthed” a second.¹³¹ In mid-January the pair floated near KH-11, a multi-billion-dollar U.S. military reconnaissance satellite. The United States complained to Moscow, which moved the satellites away from KH-11. However, on July 15, 2020, the “birthed” satellite launched a missile into outer space. This is the first time the United States has alleged a space-based anti-satellite missile test.¹³² Although Russia claimed that the satellites are peaceful, it proved that even a so-called peaceful satellite could be secretly armed with military capabilities. Ironically, in a speech that same day to his counterparts in Brazil, India, China, and South Africa, Dmitry Rogozin, head of Russia’s space program, called for a

¹²⁸ See generally Amir Guluzade, *The Role of China’s State-Owned Companies Explained*, WORLD ECON. FORUM (May 7, 2019), <https://www.weforum.org/agenda/2019/05/why-chinas-state-owned-companies-still-have-a-key-role-to-play/>.

¹²⁹ DEP’T OF DEF., DEF. SPACE STRATEGY SUMMARY, 5, 9 (2020), https://media.defense.gov/2020/Jun/17/2002317391/-1/-1/1/2020_DEFENSE_SPACE_STRATEGY_SUMMARY.PDF [hereinafter DoD Strategy].

¹³⁰ Hennigan, *supra* note 88.

¹³¹ *Id.*

¹³² *Id.*

“space free of weapons of any type, to keep it fit for long-term and sustainable use as it is today.”¹³³ It requires little imagination to envision a Chinese or Russian base on the Moon doubling as a commercial mining post and as a secret military garrison. After all, when the Soviets feared American ICBM superiority and a first-strike capability in the early 1960s they chose to place missiles in Cuba.¹³⁴ Nowadays, a similar dynamic exists, with the US enjoying a comparable advantage.

C. *Bellicose American Rhetoric*

The Trump Administration has provided mixed signals to rivals about American intentions in outer space. In 2017, Vice President Mike Pence declared that “America must be as dominant in the heavens as it is on Earth.”¹³⁵ Citing the fear that Sputnik instilled in Americans, Pence later warned that Russia and China were racing to pass the United States in space technology, especially with respect to the military.¹³⁶ In its 2020 Defense Space Strategy, the DoD pronounced, “China and Russia present the greatest strategic threat due to their development, testing, and deployment of counterspace capabilities and their associated military doctrine for employment in conflict extending to space.”¹³⁷ More modestly, however, Stephen Kitay, Deputy Assistant Secretary of Defense for Space Policy, made clear that the United States is still superior in space capabilities; however, the gap is rapidly diminishing.¹³⁸

Still, this rhetoric is somewhat misleading. American public investment in space

¹³³ *Id.*

¹³⁴ GRAHAM ALLISON & PHILIP ZELIKOW, *ESSENCE OF DECISION: EXPLAINING THE CUBAN MISSILE CRISIS*, 94–95 (2d. ed. 1999).

¹³⁵ Tim Marcin, *America Will Dominate the Heavens Under Donald Trump: Mike Pence*, NEWSWEEK (Aug. 6, 2017, 3:38 PM), <https://www.newsweek.com/america-dominate-heavens-donald-trump-mike-pence-633012>.

¹³⁶ Mike Pence, *America Will Return to the Moon—and Go Beyond*, WALL ST. J.: OPINION (Oct. 4, 2017, 7:05 PM), <https://www.wsj.com/articles/America-will-return-to-the-moonand-go-beyond-1507158341>.

¹³⁷ DoD Strategy, *supra* note 129, at 1.

¹³⁸ C. Todd Lopez, *Defense Space Strategy Addresses Militarization, Competition*, U.S. DEP’T OF DEF.: DEF. NEWS (June 18, 2020), <https://www.defense.gov/Explore/News/Article/Article/2224914/defense-space-strategy-addresses-militarization-competition/>.

dwarfs Russian and Chinese investments combined: in 2018, the United States invested \$41 billion whereas China invested \$5.8 billion, and Russia invested \$4.2 billion.¹³⁹ Moreover, this spending does not account for private investment in space. Unfortunately, this author has been unable to procure aggregate data on total U.S. private investment. However, for reference, Jeff Bezos has claimed he invests \$1 billion each year of Amazon stock to finance Blue Origins.¹⁴⁰ Elon Musk spent \$100 million to found SpaceX in 2002.¹⁴¹ In 2019, the company raised \$1.33 billion in three rounds of funding.¹⁴² Additionally, SpaceX has estimated its broadband satellite project, Starlink, will cost at least \$10 billion to build and deploy.¹⁴³ Finally, Bryce Technology reported that start up space ventures raised \$5.7 billion in funding in 2019.¹⁴⁴ Whatever the total number is, it is quite large and likely in the tens of billions a year. Russia and China simply do not have the same level of private investment. This is not to say that the Administration is wrong for taking foreign threats in outer space seriously. It should, precisely because the Russians and Chinese take these threats seriously. The United States should not, however, start a space race when it is already light years ahead of its rivals, as this would repeat the mistake of the first space race – permitting private industry, which Eisenhower warned against, to dictate American policy and thereby create a technocracy.¹⁴⁵ Naturally, this talk of competition begs the question, what do the Russians and Chinese actually want in outer

¹³⁹ Rapp & O’Keefe, *supra* note 15.

¹⁴⁰ Nicholas St. Fleur, *Jeff Bezos Says He Is Selling \$1 Billion a Year in Amazon Stock to Finance Race to Space*, N.Y. TIMES (Apr. 5, 2017), <https://www.nytimes.com/2017/04/05/science/blue-origin-rocket-jeff-bezos-amazon-stock.html>.

¹⁴¹ Sean Ross, *Elon Musk's Best Investments*, INVESTOPEDIA (Mar. 13, 2020), <https://www.investopedia.com/articles/investing/031316/elon-musks-5-best-investments-tsla-pypl.asp>.

¹⁴² *Id.*

¹⁴³ TED Talk, *SpaceX's plan to fly you across the globe in 30 minutes: Gwynne Shotwell*, YOUTUBE (May 14, 2018), <https://www.youtube.com/watch?v=Dar8P3r7GYA&feature=youtu.be&t=9m51s>.

¹⁴⁴ BRYCE: SPACE AND TECH., START UP SPACE: UPDATE ON INVESTMENT IN COMMERCIAL SPACE VENTURES (2020), https://brycetech.com/reports/report-documents/Bryce_Start_Up_Space_2020.pdf.

¹⁴⁵ MCDUGALL, *supra* note 24, at 227–30.

space?

D. Engagement with Russia and China?

i. Russia

Russia has strongly rejected the Artemis Accords as a violation of international law.¹⁴⁶ After the United States excluded Russia from the Artemis Accords, Dmitry Rogozin, Chief of Roscosmos, fumed, “The principle of invasion is the same, whether it be the Moon or Iraq. The creation of a ‘coalition of the willing’ is initiated. Only Iraq or Afghanistan will come out of this.”¹⁴⁷ More recently, he called the Artemis Accords a “political project,” and compared it to NATO.¹⁴⁸ When asked if Russia would partner with NASA on Artemis, Rogozin answered, “Frankly speaking, we are not interested in participating in such a project.”¹⁴⁹ Ominously, Rogozin signaled a Russian shift towards partnering with the Chinese, “We respect their results...[China] is definitely our partner.”¹⁵⁰ In a sign of how quickly this partnership is forming, just a few weeks later, Rogozin announced that he and the Director of the China National Space Administration, Zhang Kejian, had agreed to “probably” build a lunar research base together.¹⁵¹ On March 9, 2021, Russia and China signed an agreement to build this base

¹⁴⁶ Joey Roulette, *'Star Trek, Not Star Wars:' NASA Releases Basic Principles for Moon Exploration Pact*, REUTERS (May 15, 2020, 2:53 PM), <https://www.reuters.com/article/us-space-exploration-artemis/star-trek-not-star-wars-nasa-releases-basic-principles-for-moon-exploration-pact-idUSKBN22R2Z9>.

¹⁴⁷ *Id.*

¹⁴⁸ Mark R. Whittington, *Russia Rejects Joining NASA's Artemis Moon Program in Favor of China*, THE HILL (July 19, 2020, 5:00 PM), <https://thehill.com/opinion/technology/508013-russia-rejects-joining-nasas-artemis-moon-program-in-favor-of-china>; see *Russia Compares Trump's Space Mining Order to Colonialism*, THE MOSCOW TIMES (Apr. 7, 2020), <https://www.themoscowtimes.com/2020/04/07/russia-compares-trumps-space-mining-order-to-colonialism-a69901> (reporting that Rogozin's deputy, Sergei Savelyev, compared the Artemis Accords to colonialism).

¹⁴⁹ Eric Berger, *Russian Space Chief Questions NASA Plans, Praises Partnership with China*, ARS TECHNICA (July 13, 2020, 3:20 PM), <https://arstechnica.com/science/2020/07/russias-space-leader-praises-china-says-nasa-moon-program-political/>.

¹⁵⁰ *Id.*

¹⁵¹ EurAsian Times Global Desk, *Russia-China Lunar Pact: Russian Space Agency Chief Says China, Russia To Develop A Joint Moon Base*, EURASIAN TIMES (July 24, 2020), <https://eurasianimes.com/russia-china-will-develop-a-joint-moon-base-russian-space-agency/>.

together.¹⁵²

This partnership is dripping with irony. Recall that, in 2016, Russia issued a complaint about the Space Act before COPUOS.¹⁵³ But that complaint walked a fine line and never directly claimed that American resource exploitation in space violated the OST.¹⁵⁴ Indeed, the Russians appeared more interested in signaling to the United States their interest in “discussing the possibility to reach uniform understanding of the status of resources and set forth the structure of the doctrine that would include safety and security aspects.”¹⁵⁵ As discussed, the Russians care less about complying with international law than being able to shape it to suit their own interests. Though they may lack the level of investment and advanced technologies of the United States, they appear willing to join the Chinese who have a long-term plan to achieve space supremacy. Of course, the creation of Russo-Chinese partnership and system in space to challenge the Artemis Accords would render Rogozin’s fear of NATO a self-fulfilling prophecy.

ii. China

China’s official policy is to become the preeminent space power by 2045.¹⁵⁶ This means a nuclear-powered space fleet, space transport for humans, and mining colonies on the Moon, Mars, and asteroids.¹⁵⁷ President Xi Jinping has described the Chinese space program

¹⁵² *China and Russia to Build Lunar Space Station*, BBC NEWS (March 10, 2021), <https://www.bbc.com/news/world-asia-china-56342311>. See Elya Taichman, Interview, BBC NEWS HOUR, *Russia & China’s Agreement to Build a Lunar Research Base*, (March 9, 2021).

¹⁵³ Russian Complaint, *supra* note 75, at 1–20.

¹⁵⁴ *Id.*

¹⁵⁵ *Id.* at 6.

¹⁵⁶ Ma Chi, *China Aims to be World-Leading Space Power by 2045*, CHINA DAILY (Nov. 17, 2017, 4:32 PM), http://www.chinadaily.com.cn/china/2017-11/17/content_34653486.htm.

¹⁵⁷ Stephen Chen, *China’s Nuclear Spaceships will be ‘Mining Asteroids and Flying Tourists’ as it Aims to Overtake U.S. in Space Race*, SOUTH CHINA MORNING POST (Nov. 17, 2017, 9:30 PM), <https://www.scmp.com/news/china/policies-politics/article/2120425/chinas-nuclear-spaceships-will-be-mining-asteroids>.

as “part of the dream to make China stronger.”¹⁵⁸ The head of China’s Moon missions, Ye Peijian, later compared China’s role in the space race to its claim over disputed islands in the East and South China Seas, “We will be blamed by our descendants if we don’t go there . . . and others get there before us.”¹⁵⁹ Unlike the United States, where private industry heavily influences space policy, only the Communist Party and President Xi Jinping drive a policy that is farsighted and less vulnerable to annual budgetary negotiations or party politics.¹⁶⁰ As Namrata Goswami said, “China is best placed to win a space race, given its well-coordinated, disciplined, technocratic system, able to set and maintain long-term goals, with a vast population and talent base.”¹⁶¹

Many American policy experts trust the Chinese space program and see it as benign.¹⁶² They argue the program is civil in nature and worthy of trust, especially for scientific cooperation.¹⁶³ This argument also stipulates that China is not racing the United States.¹⁶⁴ It would be all too easy to allow the same fears that Sputnik launched – of foreign superiority – from triggering a new space race. However, Chinese rhetoric itself makes clear that it seeks preeminence for the sake of national pride and part of “the rejuvenation of the Chinese nation.”¹⁶⁵ China’s own plans and pronouncements demonstrate that its space program is

¹⁵⁸ Trefor Moss, *China Pushes for Primacy in Space*, WALL ST. J. (Dec. 31, 2018, 1:51 AM), <https://www.wsj.com/articles/china-pushes-for-primacy-in-space-11546171206>.

¹⁵⁹ *Id.*

¹⁶⁰ Namrata Goswami, *The New Space Race Pits the U.S. Against China. The U.S. is Losing Badly*, WASH. POST: OPINION (Jan 10, 2019, 4:33 PM), https://www.washingtonpost.com/opinions/the-new-space-race-pits-the-us-against-china-the-us-is-losing-badly/2019/01/10/bcdcad10-14f9-11e9-b6ad-9cfd62dbb0a8_story.html.

¹⁶¹ *Id.*

¹⁶² Dwayne A. Day, *Red Moon Revisited*, THE SPACE REV. (Mar. 11, 2019), <https://www.thespacereview.com/article/3674/1>.

¹⁶³ *Id.*

¹⁶⁴ Kyle L. Evanoff, *Bad Moonshot Rising: The Moon’s Dubious Strategic Value*, BULL. OF ATOMIC SCIENTISTS (Apr. 9, 2019), <https://thebulletin.org/2019/04/bad-moonshot-rising-the-moons-dubious-strategic-value/>.

¹⁶⁵ Goswami, *supra* note 159. Interestingly, China’s current rhetoric is not a far cry from Kennedy and Johnson administration rhetoric.

primed for “industrial and economic dominance of the Cis-Lunar System.”¹⁶⁶ By 2050, it aims to create an Earth-Moon space economic zone that experts estimate could generate \$10 trillion annually.¹⁶⁷ China also hopes to establish a refueling station on the Moon’s south pole.¹⁶⁸ This sounds oddly similar to the coal refueling stations that imperial navies competed for throughout the 19th century.¹⁶⁹ Even if such endeavors started peacefully, such large stake competition over resources historically led to conflict and war. Currently, U.S. law prohibits NASA from cooperating with China on space activities.¹⁷⁰ This prohibition stems from the Wolf Amendment from the Commerce, Justice, Science and Related Agencies Appropriations Act of 2014. This states that NASA may not spend funds to “develop, design, plan, promulgate, implement or execute a bilateral policy, program, order or contract of any kind to participate, collaborate or coordinate bilaterally in any way with China or any Chinese-owned company unless such activities are specifically authorized by law after the date of enactment of this act.”¹⁷¹ There is an exception if the FBI certifies to Congress that certain activities would not lead to transferring technology or data with national security or economic security implications.¹⁷² Naturally, the dual nature space technology makes this nearly impossible to overcome. In a hearing before the United States-China Economic and Security Review Commission on April 25, 2020, Todd Harrison, Director of the Aerospace Security Project at the Center for Strategic and International Studies, explained, “Our policy of excluding

¹⁶⁶ *Hearing on “China in Space: A Strategic Competition?”*, U.S.-CHINA ECONOMIC AND SECURITY REVIEW COMMISSION 116TH CONG. (Apr. 25, 2019) (statement of Namrata Goswami), <https://www.uscc.gov/hearings/china-space-strategic-competition>.

¹⁶⁷ Ajey Lele, *China’s Earth-Moon Space Economic Zone Venture*, THE SPACE REV. (Nov. 11, 2019), <https://www.thespacereview.com/article/3828/1>.

¹⁶⁸ Goswami, *supra* note 159.

¹⁶⁹ *Id.*

¹⁷⁰ H.R. 2787, 113th Cong. (2013).

¹⁷¹ *Id.*

¹⁷² Leonard David, *Farside Politics: The West Eyes Moon Cooperation with China*, SCI. AM. (Feb. 7, 2019), <https://www.scientificamerican.com/article/farside-politics-the-west-eyes-moon-cooperation-with-china/>.

China... has not slowed its rise as a space power. Worse, it may create an incentive for China to build an alternative coalition for space exploration that could undermine our traditional leadership role in this arena.”¹⁷³ The debate about how much to limit China is ongoing and currently holding up passage of the NASA Authorization Act of 2019.¹⁷⁴

III. PROPOSAL FOR REFORM

Ultimately, whether the Artemis Accords violate international law probably will not matter. The Trump Administration launched ahead with its plans to commercialize outer space and simultaneously attempted to increase American military capabilities in space and reinforce the protection of vital space assets through the Space Force.¹⁷⁵ President Biden has said little on space policy.¹⁷⁶ The Democratic Party Platform expressed support to “return Americans to the moon and go beyond to Mars.”¹⁷⁷ Doing so would necessitate greater certainty on what is legal in space. Since his inauguration, President Biden has endorsed the Artemis program in general, though many commentators and policy makers remain wary whether space is a priority for his Administration.¹⁷⁸ Nevertheless, on March 29, 2021, the Administration confirmed that it will continue the National Space Council.¹⁷⁹ This is a critical step that demonstrates the Administration is taking space policy seriously. It also avoids the usual backlash on space policy from one administration to another.

¹⁷³ Jeff Foust, *Defanging the Wolf Amendment*, THE SPACE REV. (June 3, 2019), <https://www.thespacereview.com/article/3725/1>.

¹⁷⁴ Jacqueline Feldscher, *How Russia sanctions impact space*, POLITICO: SPACE (Aug. 21, 2020, 7:00 AM), <https://www.politico.com/newsletters/politico-space>.

¹⁷⁵ Exec. Order No. 13914, 85 Fed. Reg. 20,381 (Apr. 6, 2020).

¹⁷⁶ Patrick Chase, *Joe Biden: Space Policy Enigma*, MEDIUM (May 13, 2020), <https://medium.com/swlh/joe-biden-space-policy-enigma-57fd15b82472>.

¹⁷⁷ DEMOCRATIC PARTY, 2020 DEMOCRATIC PARTY PLATFORM 20 (2020), <https://www.demconvention.com/wp-content/uploads/2020/08/2020-07-31-Democratic-Party-Platform-For-Distribution.pdf>.

¹⁷⁸ See Charles Beames, *Does Joe Biden take space seriously?*, POLITICO (March 12, 2021, 6:45 AM), <https://www.politico.com/news/2021/03/12/does-joe-biden-take-space-seriously-475301>, *Christian Davenport, The Biden Administration Has Set Out to Dismantle Trump’s Legacy, Except in One Area: Space*, WASHINGTON POST (March 2, 2021, 3:21 PM), <https://www.washingtonpost.com/technology/2021/03/02/biden-space-artemis-moon-trump/>.

¹⁷⁹ Sandra Erwin, *Biden Administration to Continue the National Space Council*, SPACENEWS (March 29, 2021), <https://spacenews.com/biden-administration-to-continue-the-national-space-council/>.

Further, the Biden Administration proposed a \$1.5 billion increase to NASA's budget.¹⁸⁰

President Biden should continue Artemis Accords diplomacy. The potential for an expanded space economy creating thousands of new American jobs is reason alone to pursue this. After all, the private industry demands legal certainty. Additionally, the Accords themselves are broad and flexible enough that the Biden Administration would have wide latitude to mold and form an American led space system to its own unique interests; for example, a greater emphasis on using space technology to combat climate change. It will also be possible to negotiate and finalize Artemis Accords agreements without violating OST's ban on national appropriation in Article II.

Should the United States step back from its leadership role in space diplomacy, other nations would not suddenly halt their plans for space exploration and resource exploitation. The sheer magnitude of potential commercial rewards is too tempting. On its current course, space law is destined to be determined post hoc. Nonetheless, nation-states and corporations alike would be foolish to pursue unbridled resource competition in outer space without a single international legal system to guide them.

History reinforces this point. Five hundred years ago, in a prior age of exploration, fledgling nation-states sent forth explorers on the high seas who rounded Africa's cape and sailed into the Indian Ocean in search of spices, conquest, and glory.¹⁸¹ Empires were forged as peoples were conquered. Resource competition was the fulcrum of this age, and this competition bore terrible wars.¹⁸² More recently, in the 19th and early 20th centuries, the Great

¹⁸⁰ Meghan Bartels, *Biden Proposes \$24.7 Billion NASA Budget in 2022 to Support Moon Exploration and More*, SPACE.COM (Apr. 8, 2021), <https://www.space.com/biden-nasa-2022-budget-request>.

¹⁸¹ See, e.g., BRITANNICA, BARTOLOMEU DIAS, (Harold V. Livermore ed. Aug. 19, 2015), <https://www.britannica.com/biography/Bartolomeu-Dias>.

¹⁸² See, e.g., Mamta Badkar, *9 Wars That Were Really About Commodities*, BUS. INSIDER (Aug. 15, 2012, 2:27 PM), <https://www.businessinsider.com/nine-wars-that-were-fought-over-commodities-2012-8>.

Powers of Europe again raced to divide entire continents and regions – principally Africa and the Far East – to capitalize on trade at the expense of local peoples.¹⁸³ Imperialism and colonialism proved to be zero sum games of resource competition and power. Slowly, and then with greater speed, European states converted their newly formed industrial infrastructure to produce monstrous war machines. No doubt, the First World War had many causes, but this unrestrained competition was one of the principal triggers. Unfortunately, the OST “fixed the environment of future spaceflight as one of competition among national technocracies...”¹⁸⁴ Thus, mankind is primed to repeat the mistakes of old.

Although America remains the most powerful and advanced spacefaring nation, it ought to lead from the front and develop lasting norms and laws for outer space that ensure peaceful competition. The Artemis Accords are an important first step in overcoming the obstacles and ambiguities of the OST. However, the Trump Administration’s failure to engage and bring Russia and China into this system threatens national security interests. China is aiming to create its own system with itself at the top.¹⁸⁵ Russia is ready to partner with them.¹⁸⁶ If left unchecked, this could yield two unique and contradictory systems.

Therefore, the Biden Administration should immediately engage the Russians and Chinese to incorporate them into the Artemis Accords system. This will not be easy. American rhetoric will naturally need to be toned down. Policy hawks may argue this threatens national security, but only the rhetoric should be lowered. Defense spending and technological advancement in space should continue¹⁸⁷ – America’s foes cannot be trusted to comply

¹⁸³ *See id.*

¹⁸⁴ MCDUGALL, *supra* note 25, at 413.

¹⁸⁵ *See* Chen, *supra* note 157.

¹⁸⁶ *See supra* text accompanying note 152–53.

¹⁸⁷ In particular, the private and non-military aerospace industry should have great latitude to invest in and invent future technologies. Public-private partnerships and technology-transfer programs will further stimulate the industry and lead to both advanced technologies and job growth.

without some fear of repercussion.

Any potential solution demands a consideration of both carrots and sticks. The Chinese want a seat at the table and respect for their space program. NASA should work with Congress to modify the Wolf Amendment to permit *limited* American Chinese cooperation in space.¹⁸⁸ Charles Bolden, the former NASA Administrator, said the Wolf Amendment is a “significant legal constraint” and “hindrance” and urged that it be relaxed or reversed.¹⁸⁹ This could mean allowing the President, instead of the FBI, to certify whether a particular commercial partnership may proceed. This will increase how nimble the United States may be in response to good behavior from the Chinese. Todd Harrison recommended engaging “China proactively in civil space programs when we have shared goals and when our intellectual property and existing space partnerships are adequately protected. [But]...we should simultaneously make a concerted effort to improve our deterrence posture in national security space.”¹⁹⁰ This is a sensible approach. The United States should expect China to steal technology. To build trust, the United States must demand reciprocity and transparency.¹⁹¹ But, America can take the first step by signaling a greater desire for cooperation by relaxing the Wolf Amendment and toning down rhetoric. This maintains protections for American technologies while also demonstrating American openness to working with the Chinese.¹⁹²

¹⁸⁸ H.R. 2787, 113th Cong. (2013).

¹⁸⁹ Zhao Huanxin & Dong Leshuo, *Former Chief of NASA Urges Lifting China Ban*, CHINA DAILY (Jan. 14, 2019, 3:20 PM), <https://www.chinadailyhk.com/articles/36/119/235/1547450024626.html>; *see also* Frank A. Rose, *America in Space: Future Visions, Current Issues*, BROOKINGS (March 14, 2019), <https://www.brookings.edu/testimonies/america-in-space-future-visions-current-issues/> (explaining “there are questions as to whether the current language limiting civil cooperation with China is too restrictive.”).

¹⁹⁰ Foust, *supra* note 174.

¹⁹¹ Huanxin & Leshuo, *supra* note 187.

¹⁹² Currently, Congress is debating similar amendments in the 2019 NASA Authorization Act that would require the Government Accountability Office to review NASA contractors for any business with China. The other amendment requires the NASA administrator to take into account any involvement with China Senator Diane Feinstein feared the amendments “could disrupt and unfairly disadvantage certain U.S. companies in the space sector.” Jacqueline Feldscher & Bryan Bender, *China amendments pose hurdle for NASA authorization*, POLITICO: SPACE (Aug. 7, 2020, 7:00 AM), <https://www.politico.com/newsletters/politico-space/2020/08/07/china-amendments-pose-hurdle->

Russia, though ready to partner with China, would be the weaker partner of the pair. This weakness is leverage. Despite its rhetoric to the contrary, Russia may prove more willing to join an Artemis Accords system if the incentives for doing so were greater than partnering with the Chinese. Americans and Russians have a long history of working together in outer space, especially on the ISS.¹⁹³ This has nurtured trust, and increasing trust should form any future strategy. The United States could start by renewing the Open Skies Treaty, rather than letting it lapse. This treaty allowed both countries to fly military reconnaissance aircraft over each other's territories to ensure they are "not preparing for military action."¹⁹⁴ Renewing this treaty would demonstrate that America has nothing to hide. It would build trust and set the stage for further diplomacy on space cooperation that perhaps allowed for increased access to observe military satellites and lunar bases.

Furthermore, Russia must diversify its economy considering oil and gas exports account for 40% of the government's revenue.¹⁹⁵ Potential commercial partnerships in space offer Russia this opportunity for diversification. This is not to say the United States should suddenly forgive and forget Russian election interference or its abysmal human rights record.¹⁹⁶ These must be considered carefully in any offer or deal that is ultimately made.

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¹⁹³ Marina Korean, *The Chill of U.S.-Russia Relations Creeps Into Space*, THE ATLANTIC (Jan. 11, 2019), <https://www.theatlantic.com/science/archive/2019/01/nasa-roscosmos-russia-bridenstine-rogozin/579973/>.

¹⁹⁴ David E. Sanger, *Trump Will Withdraw From Open Skies Arms Control Treaty*, N.Y. TIMES (May 21, 2020), <https://www.nytimes.com/2020/05/21/us/politics/trump-open-skies-treaty-arms-control.html>.

¹⁹⁵ *Petrostates Must Diversify to Cope with Fluctuating Oil Prices*, THE ECONOMIST (Oct. 26, 2018), <https://www.economist.com/graphic-detail/2018/10/26/etrostates-must-diversify-to-cope-with-fluctuating-oil-prices>; *Economic Change in Russia*, CTR. FOR STRATEGIC & INT'L STUD., <https://www.csis.org/programs/russia-and-eurasia-program/archives/economic-change-russia>.

¹⁹⁶ See Ellen Nakashima, *Senate committee unanimously endorses spy agencies' finding that Russia interfered in 2016 presidential race in bid to help Trump*, WASH. POST (Apr. 21, 2020, 1:49 PM), https://www.washingtonpost.com/national-security/senate-committee-unanimously-endorses-spy-agencies-finding-that-russia-interfered-in-2016-presidential-race-in-bid-to-help-trump/2020/04/21/975ca51a-83d2-11ea-ae26-989cfce1c7c7_story.html; see also, e.g., *Russia: Events in 2019*, HUMAN RIGHTS WATCH (2020), <https://www.hrw.org/world-report/2020/country-chapters/russia#>.

However, permitting relations to continue deteriorating is not productive and will only increase the likelihood of conflict. Space is a rare area of overlapping interest for the United States and Russia, which should be leveraged to America’s advantage. In fact, President Biden acknowledged that he will “cooperate [with Russia] when it is in our mutual interest.”¹⁹⁷ Of course, any gains Russia makes as a result of joining the Artemis Accords should be automatically revoked in the case of bad behavior.¹⁹⁸

At the same time, the State Department and NASA should continue pursuing Artemis Accords agreements with allies and natural partners. A large coalition will increase the pressure on the Chinese and Russians to join an Artemis system or else be left out. Completed Artemis Accords agreements with its regional neighbors – India, South Korea, Vietnam, and Indonesia – would likely pressure China the most. In that same vein, Russia would likely fear Eastern European Artemis Accords agreements. Even if such agreements fail to force China or Russia to join, they will still challenge a potential Russo-Chinese counter-system.¹⁹⁹ Additionally, Congress should increase funding for the Space Force, and the DoD should deepen collaboration with NATO allies in outer space. If the Artemis Accords represent the promise of commercial opportunities in space for countries who sign on, then the Space Force is the stick. A strong deterrent threat will both increase pressure on the Russians and Chinese as well as shore up vulnerabilities to American industry whose lifeline is tethered to satellites and space technology.

Finally, once a strong Artemis Accords system exists, the United States should call for

¹⁹⁷ *Biden’s Speech to Congress: Full Transcript*, N.Y. TIMES (Apr. 29, 2021),

<https://www.nytimes.com/2021/04/29/us/politics/joe-biden-speech-transcript.html>.

¹⁹⁸ As President Biden said in his address to a joint session of Congress on April 28, 2021, in reference to Vladimir Putin, “But he understands, we will respond.” *Id.*

¹⁹⁹ This is similar to the strategy the Obama Administration employed when negotiating the Trans Pacific Partnership (TPP).

an international conference to update the OST and codify new space law. Just like the OST, this can be accomplished through the United Nations. However, it should be undertaken only after the Artemis Accords are *fait accompli*. That way, the United States can dictate the terms of space law on an international level with greater leverage. The United States and its Artemis Accords allies would withhold consent from any treaty if the tenants of their system were not included. Additionally, by waiting to negotiate an international treaty, commercial space exploration will continue without regulatory hinderance. This will serve to further increase American leverage at any such conference.

IV. CONCLUSION

Throughout the Cold War, the United States and the Soviet Union found ways to work together in outer space. The OST memorialized these accomplishments. While it is hard to imagine relations with two regimes such as Russia and China improving overnight, progress must start somewhere. The Artemis Accords are an opportunity to improve diplomatic relations with Russia and China while simultaneously serving as a boon to American private industry. Failure to engage Russia and China will decrease national security and hinder economic opportunity. The final frontier demands an internationally recognized legal system that the major spacefaring nations promote and protect. Otherwise, conflict is almost inevitable. With the creation of Space Force, the United States has its stick. The Artemis Accords, with their promise of commerce and economic gains in space, are the carrot. The United States should heed the lessons of old and take the harder, perhaps slower road to a more secure and prosperous future. Diplomacy and engagement with Russia and China in space may not work, but lasting success is impossible without it.