RES COMMUNIS AND THE SPACE RACE: A LESSON (YET TO BE) LEARNED

NURAH GHANIE
College of Arts & Letters
Florida Atlantic University

Abstract

There has been a shift towards privatization and nationalism regarding the exploration of outer space despite these actions being in direct opposition to international space law. This article will explain and argue against these recent developments, using the current dilemma regarding the future of the space stations located in low Earth orbit (LEO) and the potential for a manned bases on the Moon. This article will focus on the legal framework of both international customary law as well as multilateral treaties, including but not limited to the Outer Space Treaty of 1967 in comparison to national policy by explaining the ironic and concerning developments currently happening in contrast to those during the Space Race between the United States and the Soviet Union. As a result, it will be argued that we must not repeat the mistakes of that era and must instead learn from them and substantiate them in the form of international and national law, building on the legal regime founded during that time.

Introduction

The exploration of outer space has been international and cooperative time and again ever since the beginning of the Space Age (c. 1957-)[1]. This was substantiated by customary law and treaties, extending the

[1] The era since the beginning of space exploration. It began with the launch of Sputnik I by the U.S.S.R.

ancient legal concept known as *res communis*, a phrase meaning 'common heritage of mankind' into the cosmos. This designates outer space as a territorial region integral to humanity's shared heritage that must be protected for posterity from national or commercial exploitation, emphasized time again in space law. This emphasis was significant due to its historical context, as the technological developments during the Arms Race[2] between the United States and the Soviet Union spurred the Space Race (c. 1955-1975)[3]. The latter developed in spite of the former, although it was made possible because of the same competition for technological prowess and national prestige. We must take stock of this fact to understand how we must conduct ourselves in the final frontier.

The body of this article will contextualize what we know as the Space Race and its accompanying legal regime, with particular emphasis on the International Geophysical Year (IGY) (1957-1958)[4], the Outer Space Treaty (1967),[5] and the Apollo-Soyuz Test Project (ASTP) (1975)[6], as well as the recent Wolf Amendment (2011)[7] and its impact on the International Space Station (1998~2030)[8], the Tiangong (2021-

[2] The Cold War competition between the United States and the Soviet Union in regard to military superiority.

[3] The Cold War competition between the United States and the Soviet Union in regard to space exploration.

[4] A worldwide scientific program that was held from July 1957 to December 1958 to conduct geophysical research.

[5] The foundation of international space law, formally known as the *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.*

[6] Alternatively, *Experimental Flight Soyuz-Apollo,* was the first international crewed mission and was achieved by the United States and the Soviet Union. It was also the formal end to the Space Race.

[7] A law passed by the United States Congress in 2011 banning 'direct' cooperation between NASA and CNSA (China National Space Administration).

[8] The first and only international space station. It includes NASA, Roscosmos, JAXA, ESA, and CSA.

)[9], the Artemis Accords[10]/Program[11](2021-) and the International Lunar Research Station (2021-)[12] with its accompanying Joint Statement. This comparison will make evident the incongruence between national and international law. Finally, it will conclude by analyzing the reasons for continuing and improving the legal practices established during the Space Race. It will ultimately argue that the doctrine of *res communis* must be prioritized over nationalism and privatization.

Issue

Although the Space Race between the United States and the Soviet Union is now a bygone era, it established and developed the practice of *res communis*, proving that international and cooperative collaboration is not a mere ideal, but actually possible. Furthermore, it was a testament to the curiosity and sensibility of humankind despite the unfortunate circumstances that it spurred out of. Today, we face the rejection of that testament. In recent decades, there has been a shift towards nationalism and privatization, which is antithetical to the peaceful exploration and use of outer space for all humankind.

Contrary to popular belief, the advent of the Space Age and the accompanying Space Race was not surprising to the nations of the world[13], nor did it begin and end with what is known as the "one giant leap for mankind[14]." Despite its iconic name, it was not meant to be a

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[9] China's first and current long-term space station.

[10] Formally known as the *Agreement Governing the Activities of States on the Moon and Other Celestial Bodies*, has been signed by twenty-nine U.N. member states as of September 2023.

[11] The NASA-led program to return humans to the Moon and establish a base on its South Pole, along with other plans.

[12] The joint China-Russia program to return humans to the Moon and establish a base on its South Pole, along with other plans.

[13] Ley, How Secret Was Sputnik No. 1?, Galaxy 48-50 (1958).

[14] Apollo XI (1969).

race. Instead, it resulted from the IGY, planned as early as 1954. It determined that both the USSR and the US would launch artificial satellites into orbit. It also marked the beginning of what would become customary international space law. In other words, there was an entire decade of customary international space law before the Outer Space Treaty (1967) which would continue to develop alongside future treaties.

The fact that the Soviet Union launched the first successful satellite, rather than the United States, was decisive in developing the following legal regime which was expected and accepted by the Eisenhower administration, as the IGY allowed the USSR and US satellites to orbit over any country without prior permission. The satellites were to be "civilian" in purpose and would establish the doctrine of "freedom in space," that is, the right of satellite overflight, for the first time in international law. This would be achieved with Sputnik I's voyage, as it did not impede on the sovereignty of any country as it flew over them over and over again at a terrific pace. Freedom of space would be recognized by both the USSR and US.[15] Hence its status as international customary law despite not being the result of an established practice over some time, as is typically required for that to be the case. Furthermore, there were efforts by the USSR to propose peace treaties in regards to outer space, for example in March 1957 (five months before the launch of Sputnik).[16] Jurist Yevgeny Korovin, considered the founder of Russian space law wrote that in regard to legal issues of interplanetary space, modern international law, especially that of the sea and air, is characterized by peace and should be extended to space, emphasizing that outer space should be used for

[15] National Sovereignty of Outer Space, 746 Harvard Law Review 1154-1175 (1961).
[16] Kostenko, Space Activities and the Space Race in Terms of Space Security: A Soviet and American Perspective, 10 Advanced space law (Online) 31 (2022).

exclusively peaceful purposes.[17] He would go on to declare that outer space has the status of res communis.[18]

Additionally, there was no official effort within the U.S. government to "race"[19] the Soviet Union in launching their satellites.[20] The Secretary of Defense at the time went so far as to say that "the Russians have…done us a good turn…in establishing the doctrine of freedom of international space…"[21] This precedent has been held ever since; it paved the way for the peaceful launches of satellites by the United States. The UN's *Committee on the Peaceful Uses of Outer Space* (1959)[22] soon followed. It established that peaceful missions have permission to launch and fly "regardless of what territory they pass[ed] over during their flight through outer space."

Space law soon began to recognize cosmonauts and astronauts. They were commonly called 'envoys of mankind,' indiscriminate of nationality. This was first mentioned in the *Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space* (1963), which emphasized their safety and the obligations that other countries have in assisting them should a crisis

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[17] Kostenko, Space Activities and the Space Race in Terms of Space Security: A Soviet and American Perspective, 10 Advanced space law (Online) 31 (2022).

[18] Zhukov, Space law 6 (1969).

[19] Peebles, High Frontier: The United States Air Force and the Military Space Program 9 (1997).

[20] Donald W Cox, The Space Race 6 (1963).

[21] Peebles, High Frontier: The United States Air Force and the Military Space Program 10 (1997).

[22] First convened in 1959, it has done so annually in order "to govern the exploration and use of space for the benefit of all humanity: for peace, security, and development." It "was instrumental in creating the five treaties and principles of outer space." United Nations Office of Outer Space Affairs, Committee on the Peaceful Uses of Outer Space, United Nations Office of Outer Space Affairs https://www.unoosa.org/oosa/en/ourwork/copuos/index.html.

arise.[23] This resolution was also notable because it would form the foundation of the Outer Space Treaty (1967). Although the concept of 'envoys of mankind' would not be written down in treaty form until near the end of the decade, its underpinnings were also present in the communications between the US and USSR. For example, after the successful flight of *Friendship 7* (1962), Premier Khrushchev was quoted as saying that "an American was added to the family of astronauts" and that space exploration should benefit man rather than being used for "cold war" purposes.[24]

President Kennedy replied, "I welcome your statement that our countries should cooperate in space exploration" and that he "long held this same belief."[25] This belief was indeed illustrated by an earlier paper prepared by the US Department of State in 1961[26].

Likewise, in a dialogue between the two leaders[27], the former seemed to allude that one of the barriers hindering concrete discussions between their respective nations was alleviated, as disarmament was no longer necessary for such talks.

It is essential to remember that this consideration was real and that the missed opportunity for collaboration between the Soviet Union and the United States was based on a misunderstanding, especially since there was more of an attitude towards cooperation at this time. For example,

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[23] United Nations Office of Outer Space Affairs, The Declaration of Legal Principles Governing the Activities of States in the Exploration and Uses of Outer Space, United Nations Office of Outer Space Affairs https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/travaux-preparatoires/declaration-of-legal-principles.html.

[24] Ibid, 38

[25] Ibid

[26] U.S. Department of State, 387. Paper Prepared in the Department of State, Office of the Historian https://history.state.gov/historicaldocuments/frus1961-63v25/d387.

[27] Ezell, The Partnership: A History of the Apollo-Soyuz Test Project 41(1978).

the Dryden-Blagonrarov Agreement (1962) further developed by the First Memorandum of Understanding to Implement the Bilateral Space Agreement of June 8, 1962.[28] It also occurred *during the Cuban Missile Crisis*, the absolute height of the Cold War between the US and USSR. And yet, these countries managed to not only mediate such a crisis but also manage international cooperation in outer space at the same time. They realized that not only is the exploration of outer space literally above that of conflicts on Earth but also figuratively. We must remember this realization, even if that era[29] is now behind us.

Furthermore, it is also important to mention that initially, at the dawn of the Space Race, militaries intended to place nuclear warheads into outer space[30], as rocket technology became capable of doing so.[31] Of course, it soon became apparent why this would prove catastrophic. These concerns foreshadowed the previously mentioned Cuban Missile Crisis (1962) and its accompanying doctrine of Mutually Assured Destruction (MAD)[32]. This consideration is fascinating when comparing it to the state of affairs today, in that we are not any closer to DEFCON 2[33] as it was. So, several years earlier, they concurred with the scientific community to launch satellites instead. This agreement would later take the form of a convention with the ratification of the *Partial Nuclear*

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[28] Ezell, The Partnership: A History of the Apollo-Soyuz Test Project (1978).

[29] The Space Race, that is.

[30] Or even go so far as to consider nuking the Moon as a post-Sputnik measure to "win" the Space Race (Project A119, U.S. Air Force) Reiffel, A Study of Lunar Research Flights, Volume I, (1959).

[31] Indeed, Sputnik and its successors were launched by Intercontinental Ballistic Missiles (ICBMs).

[32] A doctrine related to rational deterrence. It determined that in the event of one country launching a nuclear attack, the other would respond in kind, resulting in the annihilation of both.

[33] The second highest level of readiness as designated by the U.S. Armed Forces. It presumes that nuclear war is imminent, with armed forces ready to deploy and engage in less than six hours.

Test Ban Treaty (1963)[34]. This treaty banned the testing of nuclear weapons in outer space or anywhere else above ground.

The US-Soviet commitment to cooperation was further realized by their countries with the *Summary of Understandings Between the National Aeronautics and Space Administration of the United States and the Academy of Sciences of the Soviet Union* (1963).[35]

The Legal Subcommittee of the United Nations Office for Outer Space Affairs would first consider the Outer Space Treaty in 1966, followed by an agreement by the General Assembly. The Outer Space Treaty has since become the foundation of international space law. It opened for signature in January 1967 and entered into force the following October. It has since been known for establishing that outer space is to benefit all mankind, regardless of nationality, but is not to be exploited by them or to house weapons of destruction of any kind, emphasizing peaceful use, protection of astronauts/cosmonauts, and the liability of states for their actions in outer space.[36]

Such principles did not appear out of thin air, so to speak; these concepts were repeated throughout the history of space exploration. For example, it arose directly from two prior resolutions both referred to as *International Co-operation in the Peaceful Uses of Outer Space*.[37]

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[34] Formally known as the 1963 Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water.

[35]Cambridge University Press, Summary of Understandings Between the National Aeronautics and Space Administration of the United States and the Academy of Sciences of the Soviet Union, New Perspectives on Space Law 195-198 (1963).

[36] United Nations Office of Outer Space Affairs, 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 Office of Outer Space Affairs https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introouterspacetreaty.html.

[37] UNOOSA, Res 1802 (XVII), (Mar. 6, 2024), https://www.unoosa.org/oosa/oosadoc/data/resolutions/1962/general_assembly_17th_session/res_1802_xvii.html.

Furthermore, the Outer Space Treaty (1967) emphasized international cooperation over all else, especially according to Article I.

The reference to non-governmental entities includes private companies. Furthermore, national entities are held accountable for the actions of these entities, meaning that the phrase "outer space is not subject to national appropriation by claim of sovereignty, use or occupation, or by any other means" does indeed apply to non-governmental entities, such as private companies. Neither they nor their governmental superiors have the right to claim any part of outer space.

Certainly, nationalism, which prioritizes one country's interest over another, and privatization, which prioritizes profit for a privileged few, have no place in outer space. Collaboration and cooperation among peoples of the world during the Space Race and beyond brought about the significant technological achievements of which we continue to reap the benefits of today.[38]

The following year, the Rescue Agreement entered into force.[39] It demands that States, regardless of nationality, take whatever measures necessary to rescue and assist astronauts/cosmonauts. It also describes the actions that must be taken if space objects return to Earth outside of the state from which they were launched. This was yet another effort to ensure that nations' actions in outer space did not do anything that would exacerbate their relations with other countries on Earth. This agreement and those like it are intended to ensure that countries will not become antagonistic despite being unable to collaborate directly. This was especially significant considering that man would set foot on the

[38] Doyle, A Concise History of Space Law: 1910-2009, New Perspectives on Space Law 23-24 (1961).

[39] UNOOSA, 2345 (XXII). Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, United Nations Office of Outer Space Affairs https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/rescueagreement.html.

moon next year. The image of the American flag on the Moon would become an iconic memory of the public consciousness. Still, it is essential to remember that action was not much more than a symbolic effort as the Outer Space Treaty banned the national appropriation of celestial bodies by any means In other words, no entity has ever owned the Moon, and no one ever will, for as of August 2023, 114 countries are parties to the treaty, and another 22 are signatories.

The Moon Agreement was first considered in 1972, opened for signature in 1979 and entered into force in 1984. It reiterated the demands outlined in the Outer Space Treaty, specifically about the Moon (and other celestial bodies), as the Apollo program was waning. However, unlike the Outer Space Treaty, it has not been signed by self-launching space-faring nations, which severely limits its impact. It demands that nations "provide the necessary legal principles for governing the behavior of states, international organizations, and individuals who explore celestial bodies other than Earth, as well as administration of the resources that exploration may yield."[40] It was declared incomplete and imprecise as well as limiting private property rights.[41] But the latter is precisely the end that international space law must achieve because private entities do not represent the interests of all humankind. Furthermore, the Moon Agreement is much more precise and detailed than the Outer Space Treaty which is signed by over one hundred nations, as evident in its Articles XI and XV. Although countries may try to pass and act on their national policies, this contradicts international customary space law. There is no reason why countries should not sign the Moon Treaty, as it is aligned with both

[40] UNOOSA, 34/68. Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, United Nations Office of Outer Space Affairs https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/moon-agreement.html.

[41] Hearings before Subcommittee on Science, Technology, and Space of the Committee of Commerce, Science, and Transportation: Hearing Before the Subcomm. on Science, Technology, and Space of the Committee of Commerce, Science, and Transportation of the Committee on U.S. Congress, Senate, 92nd Cong. (1980).

treaties as well as international customary law. These sources, unlike many cases in national policy, recognize that nationalism and privatization do not belong in outer space.

Meanwhile, the Apollo-Soyuz Test Project (ASTP) (1975) was achieved by the US and USSR. It was the first-ever international crewed mission into outer space. It was also the formal closing of the Space Race. This mission would mark a significant milestone in the history of space exploration and international space law.

The agreement that made the ASTP possible was the Agreement Concerning Cooperation in the Exploration and Use of Outer Space for Peaceful Purposes in 1972, signed by US President Nixon and USSR Chairman Kosygin. This established the legal framework for this project in particular and would specifically address how information would be exchanged between the two nations, as detailed in Article 2. Also of note was Article 4, which stated overt commitment to international space law.[42]

It is evident that Apollo-Soyuz and its accompanying legislation was intended to further international space law. Although it was a bilateral treaty between the two countries, it also was an attempt to codify international customary law, and it was successful in its attempt. The US and USSR considered this project's potential effect on space exploration and wanted this expression of peace and partnership to continue. This commitment must continue, lest we repeat the errors of that era.

With that being said, one of the significant failures of space exploration in modern times is the recent and, in some ways, backward development towards nationalism and privatization. For example, as the International Space Station is going to be replaced with a US national

[42] Cooperation In Space, (Dec. 19, 2012), https://www.archives.gov/files/presidential-libraries/events/centennials/nixon/images/exhibit/agreement-of-cooperation.pdf.

and commercial one to rival China's Tiangong, while manned lunar bases will be established on the south pole of the Moon by the US-led Artemis Program and the joint China-Russia International Lunar Research Station. Both missions will or may rely on private entities in some way, an example being the US Commercial Space Launch Competitiveness Act (2015). At the same time, these programs cannot legally collaborate due to the Wolf Amendment, establishing them at odds with each other, essentially launching a new Space Race, as if we didn't learn this the hard way the first time around.

Rule

To reiterate, this article focuses on space law concerning the International Space Station, the Tiangong, the Artemis Program, and the International Lunar Research Station.

The International Space Station was the first of its kind. It ushered in a new era of space exploration. As mentioned previously, it was a direct successor of the ASTP a couple of decades prior as the ISS was conceived by a joint effort between the US and Russia after their plans for their national space station programs failed to come to fruition for budgetary reasons. This was foreseen during the Space Race as well, as stated in the foreword of the book U.S.-Soviet Cooperation in Space written by Ambassador Foy D. Kohler

"The US and the USSR conducted massive space programs side by side, each costing billions of dollars yearly, each concerned with the same problems, each needing the same answers, and each finding them essentially the same ways. At any point along the way, either could have benefited immensely and saved itself enormous resources through a systematic exchange of information and data, not to mention joint planning and possible divisions of labor…How much could have been saved through exchanges of information and experiences? And how

much for the tens of thousands of other space items developed in parallel?"

The ISS was established as a result of a multifaceted legal regime. The initial and primary legislation was the Space Station Intergovernmental Agreement of 1998. The partnership that comprises the International Space Station includes not only the Russian Federation and the United States but also Canada, Japan, and eleven Member States of the European Space Agency (Belgium, Denmark, France, Germany, Italy, The Netherlands, Norway, Spain, Sweden, Switzerland, and the United Kingdom). The Space Station Intergovernmental Agreement, in its first article, stated that its purpose was "to establish a long-term international cooperative framework…for peaceful purposes; by international law."[43]

Notably, the following article states that the ISS is led by the US in its operation, not to mention the reference to the 'commercial use of outer space'. At the same time, however, it mentions that it is by the Outer Space Treaty of 1967. But the fact of the matter is the functioning of the ISS is mainly orchestrated by one country (the US) in particular, and its partners are expected to fall in line with its national policy. Article 4 of The Space Station Intergovernmental Agreement would establish four Memoranda of Understanding (MOUs) between NASA and its four partners to determine their rights and responsibilities, particularly that of NASA because of its leadership role.[44] Contractual agreements between the agencies concerned the trading aspect and their

[43] Among the Government of Canada, Governments of Member States of the European Space Agency, the Government of Japan, the Government of the Russian Federation, and the Government of the USA Concerning Cooperation on the Civil International Space Station, (June 8, 2001), https://aerospace.org/sites/default/files/policy_archives/Space%20Station%20Intergovernmental%20Agreement%20Jan98.pdf.

[44]International Space Station legal framework, 29 December https://www.esa.int/Science_Exploration/Human_and_Robotic_Exploration/International_Space_Station/International_Space_Station_legal_framework.

accompanying rights and duties.[45] For example, it allows the United States and its astronauts to use Russian equipment. The ISS Code of Conduct, established in 2000, provides a regulatory framework for the behavior of astronauts/cosmonauts aboard the ISS.[46] [47]

The ISS is mainly subject to US national policy, notably the Wolf Amendment (2011) and the Commercial Space Launch Competitiveness Act or SPACE Act (2015). To begin with the latter, the SPACE Act permits US private companies to "engage in the commercial exploration and exploitation of space resources" while at the same time declaring that "the United States does not [by this Act] assert sovereignty, or sovereign or exclusive rights or jurisdiction over, or the ownership of, any celestial body."[48] However, this act fails to address that once these private corporations extract such resources, their activities will be under the jurisdiction of the country of origin and therefore, be an act of ownership. As mentioned, the Outer Space Treaty demands that outer space is not used for commercial or national exploitation. Furthermore, the concept of sovereignty is not protected under international space law unlike in international law. The SPACE Act, also emphasizes 'competition' despite such an approach proving detrimental to progress in the past. Not to mention that the current endeavors of the private sector in space exploration are not even akin to what the public sector achieved upwards of six decades ago.[49] It is yet

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[45] Ibid

[46] J Tort, Legal and ethical framework for astronauts in space sojourns, (July 27, 2005), https://web.archive.org/web/20060913194014/http://portal.unesco.org/shs/en/file_download.php/785db0eec4e0cdfc43e1923624154cccFarand.pdf.

[47] Ibid

[48] U.S. Commercial Space Launch Competitiveness Act, H.R.2262 114th Cong. (2015).

[49] Leonard David, In NASA's Push for the Moon, Commercial Partners Soar—And Stumble, Scientific American (Mar. 14, 2024), https://www.scientificamerican.com/article/whats-behind-nasas-commercial-lunar-hits-and-misses/.

another instance of the private sector doing a worse job at something accomplished by the public sector decades ago and yet they expect to be applauded for it as if it is something of benefit, let alone for all mankind.

Simply put, the International Space Station has yet to achieve the goal of being wholly international in practice. Of particular note is the case of the People's Republic of China. This nation does not even have the chance to cooperate with the US and, by extension, the rest of the ISS. This is especially significant because even the USSR had some chance for international collaboration during the Cold War. While the author of this article is aware that these countries are not comparable in some respects, it begs the question if the differences between them are stark enough to result in such different outcomes. It also begs the question of whether or not we have learned from any of the mistakes that were present during the Space Race, especially where international cooperation versus national competition is concerned. However, China and its space program recognize the historical and legal impact of the Space Race, implying that we should not repeat the mistakes from that era.[50].

The Wolf Amendment (2011)[51] virtually bans the Chinese National Space Program from working on the ISS and any other project with NASA. This legislation's primary purpose was to protect the United States national security apparatus from accidentally transferring technological information to China, as space technologies are considered 'dual use,' that is, for both civilian and military purposes. However, that fact did not do much in the way of outright prohibiting international cooperation in the past. Regardless, proponents of the legislation declare that it is a means to mitigate the chances of a war

[50]Jie Long, China's Space Station Project and International Cooperation: Potential Models of Jurisdiction and Selected Legal Issues, 36 Space Policy (2016).
[51] Department of defense and full-year continuing appropriations act, 2011, H.R. 1473 10, 112th Cong. (2011).

between China and the US.[52] This is not true. Such actions give the impression that the US is hostile towards collaboration and multilateral activities in space and that it instead would rather have a monopoly. China has no choice but to take such actions at face value. As a result, both China and the US need to ramp up their actions in tandem. This creates a spiral of ever-increasing defensive measures on both sides, perceived as offensive by the other. It makes it so that there will always be a division among humankind in outer space as long as this amendment (and any like it) exists.[53]

As a result, the Chinese space program did not waste any time in launching its first space station, Tiangong-1, in the same year. China also proclaims that it is still committed to limited international cooperation, despite the Wolf Amendment. The Handbook of China Space Station and Its Resources for International Cooperation, jointly released by the China Manned Space Agency (CMSA) and the United Nations Office for Outer Space Affairs (UNOOSA) on 28 May 2018, made it evident their stance towards international cooperation, stating that it intends "To build a national space laboratory of an internationally advanced level for large-scale science and technology experiments, educative purposes and promote international/regional cooperation to study and uncover significant scientific results and benefits;"[54]

[52]George Whitford, Trouble in the Stars: The Importance of US-China Bilateral Cooperation in Space, (Oct. 27, 2019), https://hir.harvard.edu/trouble-in-the-stars-the-importance-of-us-china-bilateral-cooperation-in-space/.

[53]Baohui Zhang, The Security Dilemma in the U.S.-China Military Space Relationship: The Prospects for Arms Control, 51 Asian Survey 311-332 (2011).

[54]CMS, China Space Station and its Resources for International Cooperation, United Nations Office of Outer Space Affairs https://www.unoosa.org/documents/doc/psa/hsti/CSS_1stAO/CSS_1stAO_Handbook_2018.pdf.

The International Lunar Research Station (ILRS) is a joint program between China and Russia[55] aimed to establish a long-term lunar base for the sake of scientific exploration and experimentation.[56] According to the Joint Statement between the Chinese National Space Administration and Roscosmos, its mission "is to strengthen scientific research exchanges and promote the peaceful exploration and use of outer space in the interests of all humankind."[57]

In March 2021, China and Russia would sign a Memorandum of Understanding regarding the ILRS.[58] In addition to the Memorandum of Understanding and the Joint Statement, the ILRS Roadmap (V1.0) and Guide for Partnership (V1.0) are two documents that outline the mission plan for the ILRS and the relationship between China, Russia, and its partners on the ILRS, respectively. Particularly of note is the 'Cooperation Domain' in the Guide for Partnership that is dedicated to "Joint development of the legal documents regulating relations, including the involvement in cooperation of third parties, in the framework of ILRS."[59]

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[55] And 8 other partners, those being Venezuela, South Africa, Azerbaijan, Pakistan, Belarus, Egypt, Thailand and Turkiye.

[56] Wu, Xiaodan. "The International Lunar Research Station: China's New Era of Space Cooperation and Its New Role in the Space Legal Order." *Space policy* 65 (2023): 101537-. Web.

[57] China National Space Administration And The State Space Corporation "Roscosmos", JOINT STATEMENT Between CNSA And ROSCOSMOS Regarding Cooperation for the Construction of the International Lunar Research Station, China National Space Administration https://www.cnsa.gov.cn/english/n6465668/n6465670/c6811967/content.html.

[58] Ibid

[59] China National Space Administration And The State Space Corporation "Roscosmos", International Lunar Research Station (ILRS) Guide for Partnership, China National Space Administration.

Due to the Wolf Amendment, The ILRS competes directly with the US-led Artemis Program. Its legal regime originated in the Artemis Accords, which argues that it follows international space law.

The Artemis program was established in October 2020 with the Artemis Accords. It states, among other promises, that "The purpose of these Accords is to establish a common vision via a practical set of principles, guidelines, and best practices to enhance the governance of the civil exploration and use of outer space to advance the Artemis Program."

As of February 2024, there are 36 signatories to the Artemis Accords[60]. According to the US government, these signatories are committed to the Artemis Program to "bring together nations with a common vision for peaceful, sustainable, and transparent cooperation in space."[61]. In contrast to the ILRS, which is multilateral in its leadership, as it is a joint mission between Russia and China, the Artemis program and its affiliated Accords are led by the US alone).[62] So, although the Artemis Accords includes more countries in total, the ILRS includes more countries in its leadership, showing the difference in approach regarding international cooperation and collaboration.

[60] Artemis Accords, United States Department of State https://www.state.gov/artemis-accords/. Those signatories being Angola, Argentina, Australia, Bahrain, Belgium, Brazil, Bulgaria, Canada, Colombia, Czech Republic, Ecuador, France, Germany, Greece, Iceland, India, Israel, Italy, Japan, Luxembourg, Mexico, Netherlands, New Zealand, Nigeria, Poland, Republic of Korea, Romania, Rwanda, Saudi Arabia, Singapore, Spain, Ukraine, United Arab Emirates, United Kingdom, United States and Uruguay.

[61] Artemis Accords, United States Department of State https://www.state.gov/artemis-accords/.

[62] Athar ud Din, The Artemis Accords: The End of Multilateralism in the Management of Outer Space?, 20 Astropolitics: The International Journal of Space Politics & Policy (2022).

Analysis

As explained previously, the United States, Russia, and China proclaim that their respective space programs proceed per international law. However, these programs have been (or may be) the subject of nationalism and privatization as a means to prioritize their own countries' interests and that of their industries, despite the demands of international space law. The International Space Station excludes one country in particular, China, despite its proclaimed willingness to cooperate with international law. As a result, China established the Tiangong, its national space station, emulating the beginnings of the space station programs during the Space Race. The ISS itself is reaching retirement age, and with the Tiangong newly established, it could be a potential replacement for other countries to collaborate with in LEO. Meanwhile, the US is planning for a new national and commercial one, known as the Lunar Gateway. As the name suggests, it would be located in *lunar* orbit and a part of the Artemis program[63]. The International Lunar Research Station is a joint effort between Russia and China to return humans to the Moon but also to finally achieve their own manned lunar firsts, as well as potentially for those that they partner with. Artemis and the ILRS also plan for a long-term presence on the Moon and to create a scientific and research base for further exploration and experimentation.

The Wolf Amendment intends to bar cooperation between the Chinese space program and the United States space program, which is precisely what it has been doing since its inception. However, it conflicts with every claim that certain US space missions are aligned with and under international space law because the Wolf Amendment directly violates it. The Space Station Intergovernmental Agreement (and subsequent documents) and the Artemis Accords both proclaim that their missions

[63] NASA, NASA's Gateway Program, https://www.nasa.gov/reference/nasas-gateway-program/.

are by international law and yet practice the exact opposite in that they obstruct the opportunity for another country to cooperate with them. By extension, both the Tiangong and the International Lunar Research Station are subject to this treatment and have no choice but to become at odds with their American-led counterparts. So their national space law conflicts with international space law because it is stunted by the Wolf Amendment, unable to reach its full potential. Without the Wolf Amendment and similar policies such as the SPACE Act, all of these space programs could have been aligned with international space law, but this is not the case now.

The intention behind the International Space Station was that it would live up to its promise of internationalism. One can deliberate the semantics of what it means to be international. For instance, if two or more countries cooperating is the minimum for internationalism, making it synonymous with multilateralism, then the ISS is indeed international. However, national policy prevents the potential for complete international cooperation.

The Tiangong is China's first space station, as was Salyut for the USSR and Skylab for the US. One would think that the past international efforts of space-faring nations would have given way to a truly international space station so that no countries would have to learn about the inefficiencies of nationalism and privatization has on space exploration the hard way. Sovereignty has no protection in outer space, borders and so forth are alien to the cosmos; they are an Earth-bound creation. China, too, will learn this lesson, if they have not already, and the Tiangong very well may be the practical successor to the International Space Station once the latter is retired by the end of the decade.

Meanwhile, the Artemis Accords intend to advance the Artemis Program by international law, that is, for the benefit of *all* humankind. However, this is virtually impossible, if some countries are barred from benefiting from it. The Artemis Program also intends to continue the

legacy of the Apollo program and the International Space Station, as it takes the crewed lunar landing mission from the former and the internationalism from the latter. However, this does not mean it must repeat its mistakes, the errors of allowing privatization and nationalism to get in the way of innovation and progress. Instead, it must continue developing the benefits that arose despite the political and economic context of the time and look past them for the sake of progress. It has been done before and can be done again. But until that happens, the nations of the world are well on their way to not only committing the mistakes of the Space Race (competition in the way of progress and goodwill) but also wholly committing itself to a new Space Race to repeat its historical mistakes. Only this time, there will be more countries directly competing against each other in what is supposed to be for the benefit of all humankind. In that sense, humanity is more divided amongst itself now than ever as far as space exploration is concerned, despite the demands of space law.

Conclusion

The world's space programs are in a stalemate; either they continue violating the demands of international space law by continuing this way, or they continue to ignore national space law in pursuance of international space law. The history of customary international space law has its origins in the Space Race and has established itself, time and again, to be on the side of cooperation and even collaboration at times. There is a reason that the only formal beginning[64] and end[65] of the Space Race as an era was international and cooperative. We were meant to continue where they left off and avoid repeating the mistakes that preceded it. Only recently has national policy proposed otherwise, astance yet to be taken by other major space-faring nations. The US

[64] The International Geophysical Year (1957-1958)

[65] The Apollo-Soyuz Test Project (1975)

may have taken this stance to protect its supremacy in the Space Age; however, if other countries disagree with the competition approach, it will not bode well for it, for this approach has not yet succeeded. And if other countries feel as if they have no choice but to act in "kind", the results will be even worse and will conflict with already existing legislation. This conflict must be resolved before it is too late. This conflict is intentionally or unintentionally being denied within the confines of the national policy that comprise these missions. National space law has yet to recognize that it poses a barrier to genuine cooperation between nations in outer space, proclaiming that it is in accordance with international space law when it is not. For instance, the Outer Space Treaty of 1967 was an attempt to mitigate the potential of national policy to become exclusionary and adversarial in the realm of space as it had on Earth. Although its origins were indeed during the Cold War, a bygone era, the Space Age is here to stay.

We must understand the importance of these past legislations and customs and why they came to pass, lest we repeat the mistakes of history. We must also develop them, always on the side of progress, that is, the side of cooperation. We must not allow the interests of national prestige or the profit motive to take precedence over the interests of humanity as a whole. The recent shift towards nationalism and privatization must be reversed in favor of a genuinely international and cooperative legal framework, furthering that which was founded during the Space Race. There is still time to do so. The notion of *res communis* must not be an empty promise but a doctrine for all mankind.