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Indo-Pacific Conflicts will be Reimagined in Outer Space Exploration

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Indo-Pacific Conflicts will be Reimagined in Outer Space Exploration

By: Michael Incorvaia

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I. INTRODUCTION

Outer space has long been considered the final frontier and the last place for humankind to explore. The extensive advancement of technology—driven by a new rush to compete for the resources of outer space—has pushed the laws and guidelines developed during the first “space race” of the Cold War to the brink of obsolescence. Participants, ideologies, and global powers have all undergone significant changes since the Cold War; however, space law itself has not kept pace with the significant changes of the 21st century. While the implementation and enforcement of civilized law will keep outer space safe from conflict while space exploration and utilization expand, global states must develop applicable and enforceable space laws for future endeavors.

As global superpowers begin to interfere with others’ reach in outer space, experts call into question the security of outer space.¹ The enforcement of legal standards is an essential aspect of maintaining national and global order and typically is utilized to fill in legal gaps and provide interpretation where the law lags.² At the international level, these

¹ See Jessica West, *Norms, Space Security, and Arms Control*, PROJECT PLOUGHSHARES, https://ploughshares.ca/pl_publications/norms-space-security-and-arms-control/ [<https://perma.cc/CL3X-2LWT>] (last visited Dec. 24, 2021).

² *Id.*

norms are essential to controlling and restricting activities in outer space.³ Outer space is outside the jurisdiction of almost all laws and treaties, despite international standards mitigating dangers and threats.⁴ Established standards provide the international community the purpose of space governance and the type of activities that are necessary to address, while mandating the behaviors and the tools or mechanisms to enable such practices.⁵

Outer space exploration and technology has developed at a breakneck pace, which has left existing legal doctrines inadequate to address emerging legal issues.⁶ As more international communities become spacefaring nations, geopolitical competition to utilize the immense resources of outer space has intensified.⁷ With competition intensifying, a weak legal framework will fail to provide a safe environment for those who wish to utilize the resources outer space may provide. The United Nations (UN) is responsible for establishing a precedent for outer space law and for strengthening policies related to safety and sustainability in outer space.⁸ New policy must not model the current international approach to security, and instead include enforcement mechanisms supported and enforced by the UN Security Council or International Court and bind the countries exploring outer space to international guidelines.

Outer space law has been developed and conducted in a manner reflective of general international law—legislators have instituted international agreements, treaties, conventions, and resolutions to dictate rules and regulations.⁹ The doctrine of outer space law is most often considered to be the rules, principles, and standards that appear in five international treaties and numerous governing principles.¹⁰ These governing accords address international cooperation regarding matters such as: the preservation of the outer space and Earth environments, liability for damages caused by outer space objects, settlement of disputes, rescue of astronauts, sharing of information about potential dangers, and use of outer space-related technologies.¹¹ A fundamental principle that binds the governing accords of outer space is that outer space is a province

³ *Id.*

⁴ *Id.*

⁵ *Id.*

⁶ James R. Wilson, *Regulation of the Outer Space Environment Through International Accord: The 1979 Moon Treaty*, 2 *FORDHAM ENVTL. L. REP.* 173, 177 (1991).

⁷ Jessica West & Gilles Doucet, *SpacewatchGL Feature: A New Survey Seeks the Input of Global Experts on Space Norms*, SPACEWATCHGL, <https://spacewatch.global/2020/06/spacewatchgl-feature-a-new-survey-seeks-the-input-of-global-experts-on-space-norms/> [<https://perma.cc/HWG8-4WZX>] (last visited Feb. 10, 2023).

⁸ Space Law, UNITED NATIONS OFFICER FOR OUTER SPACE AFFAIRS, <https://www.unoosa.org/oosa/en/ourwork/spacelaw/index.html> [<https://perma.cc/6VD6-JTQX>] (last visited Dec. 28, 2021).

⁹ *Id.*

¹⁰ *Id.*

¹¹ *Id.*

for all of humankind, where the freedom of exploration and use of outer space by all states can be done without discrimination.¹²

Outer space is a territory unclaimed by any one state which makes it vulnerable to colonial intrusion. It is hard for an objective observer to believe that history will not repeat itself and international superpowers will partake in colonialism in outer space where treaty creation, existence, and regulation lack development.

The call to provide a more robust system of outer space law has not been ignored by major political powers. On December 1, 2021, Vice President Kamala Harris stated that recent acts of the foreign actors to destroy their own satellites and “blasting debris across space” demand greater responsibility of global behavior to protect national security and growing outer space commerce.¹³ Vice President Harris specifically stated that there must be an expansion of the “rules and norms on safety and security, on transparency and cooperation to include military, commercial and civil space activity.”¹⁴ As privatization becomes prevalent, outer space is no longer the last frontier that only world superpowers and the most ambitious nations could gain access to.¹⁵ Change in activities that countries will be conducting in outer space is imminent and requires advancements in rules and procedures to ensure cooperation between nations. It is time the international community recognized the need to begin the process of treaty drafting and confirmation to keep outer space free and fair as exploration advancements continue.

The technological advancements of the outer space industry over the last 50 years have made the Outer Space Treaty of 1967 (OST) obsolete.¹⁶ The current trajectory for the creation and development of outer space law is insufficient because it relies on national standards and ratification.¹⁷ The use of national standards in treaties leads to conflicts like the current simmering hostility between China and Taiwan; this is an example of how unenforceable treaties and agreements can lead to international tension and aggression.¹⁸ Without the ratification of new treaties and the existence of enforcement mechanisms, the same territorial tension that exists in the

¹² *Id.*

¹³ See Bryan Bender, *Harris Calls for New International Rules of Space after Russia Blows up Satellite*, POLITICO, (Dec. 1, 2021), <https://www.msn.com/en-us/news/technology/harris-calls-for-new-international-rules-for-space-after-russia-blows-up-satellite/ar-AARlxhD?ocid=msedgntp> [https://perma.cc/36WU-WP5P] (last visited, Feb. 10, 2023).

¹⁴ *Id.*

¹⁵ See *The 10 countries most active in space*, AEROSPACE TECHNOLOGY, (Dec. 21, 2015), <https://www.aerospace-technology.com/features/featurethe-10-countries-most-active-in-space-4744018/> [https://perma.cc/BT76-442T] (last visited, Feb. 10, 2023).

¹⁶ Jason Krause, *The Outer Space Treaty turns 50. Can it survive a new space race?*, ABAJOURNAL, (Apr. 1, 2017), https://www.abajournal.com/magazine/article/outer_space_treaty [https://perma.cc/4HUP-NNUT] (last visited, Feb. 10, 2023).

¹⁷ *Id.*

¹⁸ See Karin M. Krchnak, *Special Issue “The South China Sea Territorial Disputes”*, 13 CHINESE (TAIWAN) Y.B. INT’L L. & AFF. 383 (1995).

Indo-Pacific will begin to appear when the nations of Earth continue to expand their reach into the depths of outer space.

Treaties with clear language and effective enforcement mechanisms will positively impact the sustainability of ventures in outer space. Outer space technology is intertwined into our daily lives through services like weather forecasting, disaster monitoring, and data generation.¹⁹ As space exploration becomes more popular and feasible, ungoverned conflicts in outer space will disrupt the daily lives of individuals across the globe if they remain unresolved. Treaties with enforceable governance mechanisms rather than passive participation by signatories are necessary to create transparency and confidence among international actors to govern both unlawful and lawful conduct of their outer space activities.²⁰ Valid solutions to resolving the issues of the OST include creating a greater distribution of power among signatories, providing international courts with a greater ability to enforce treaty parameters, and developing networked regions. These solutions must also be joined by compliance reporting and other dispute resolution mechanisms to ensure outer space does not become ripe with the conflicts of the Indo-Pacific.

This article will focus on the effects of international treaties and how they can be utilized to govern the future of outer space exploration. The discussion will include evaluating how modern changes in technology have created a need for updated outer space-specific treaties to ensure that outer space does not become a contentious zone between countries. This article will begin by exploring the developments in outer space that have created a new space race. Then, it will discuss the Indo-Pacific conflict and why the current multilateral treaty strategy that is used in the region will not be effective in outer space treaties.

The article will then move to the international treaties currently governing outer space, in addition to the use of national laws to govern outer space activity. It will then identify possible sources of future conflict in outer space that need to be addressed with the development of new treaties. Finally, the article concludes with an analysis of how new treaties with better enforceability mechanisms will ensure outer space does not devolve into a contentious zone reflective of Indo-Pacific conflicts.

II. BACKGROUND OF TREATIES

Treaties are the backbone of international cooperation. They create communities where members have a common responsibility and where actions taken by each member are evaluated against the specific responsibility established in the treaty.²¹ Multilateral treaties are

¹⁹ *Manual on International Law Applicable to Military Uses of Outer Space*, MCGILL, <https://www.mcgill.ca/milamos/> [https://perma.cc/633J-82AH] (last visited, Feb. 10, 2023).

²⁰ *Id.*

²¹ Natalie Sambhi, *Do we need an Indo-Pacific Treaty?*, AUSTRALIAN STRATEGIC POLICY INSTITUTE (Jul. 8, 2013), <https://www.aspistrategist.org.au/do-we-need-an-indo-pacific-treaty/> [https://perma.cc/5RSU-J5Y7] (last visited Feb. 10, 2023).

developed between a large number of states and can cover every substantive field of international law, from human rights to trade agreements.²² When used properly, a multilateral treaty creates a strong incentive to cooperate and develops a useful tool for conflict management to effectively tackle security challenges and economic transformations.²³

In the United States, treaties are classified under two categories: executory or self-executing.²⁴ An executory treaty has no direct effect until it has been implemented by domestic law and legislatures have taken direct action to approve the implementation.²⁵ Executory treaties may constitute an international commitment, but they are not binding domestic law without legislative ratification.²⁶ Self-executing treaties operate without the aid of legislation, and terms set out in the treaty take effect upon ratification.²⁷

The Law of the Sea was signed and ratified by 154 States and the European Community and is the best-known and, at the time of this writing, never replicated form of international treaty making.²⁸ The Law of the Sea is built on the idea that states exercise sovereignty over their territory and the activities taking place in their seas.²⁹ The creation of the Law of the Sea was driven by the political, economic, security, and scientific interests of the ratifying nations, with significant weight being placed on the advancements of technology and sciences.³⁰ After the ratification of the Law of the Sea treaty, international courts applying the treaty were only able to render legally binding decisions and enforce the articles of the treaty through the consent of the States which were party to the dispute in question.³¹

The international community has been unable to develop an overarching compulsory judicial system that addresses the breaches of provisions that are set out in controlling treaties.³² The advancements currently taking place in outer space exploration pose many of the same issues that the Law of the Sea addressed. The Law of the Sea provided a stable platform for international courts to intervene and for consenting

²² *Multilateral Treaties*, LEGAL INFORMATION INSTITUTE https://www.law.cornell.edu/wex/multilateral_treaties [https://perma.cc/CHC7-RAQK] (last visited Nov. 22, 2021).

²³ Sambhi *supra* note 21.

²⁴ 16 Ohio Jur. 3d Constitutional Law § 165 (2023).

²⁵ *Id.*

²⁶ *Id.*

²⁷ *Id.*

²⁸ Tullio Treves, *United Nations Convention on the Law of the Sea*, AUDIOVISUAL LIBRARY OF INTERNATIONAL LAW (Jul. 2008), <https://legal.un.org/avl/ha/uncls/uncls.html> [https://perma.cc/CG3F-SK2K] (last visited Feb. 10, 2023).

²⁹ Tullio Treves, *Historical Development of the Law of the Sea*, THE OXFORD HANDBOOK OF THE LAW OF THE SEA 1 (2015).

³⁰ *Id.*

³¹ *Id.* at 398.

³² *Understanding International Law*, UNITED NATIONS, https://treaties.un.org/doc/source/events/2010/press_kit/fact_sheet_5_english.pdf [https://perma.cc/4QC6-ETM8] (last visited, Feb. 10, 2023).

States to be held responsible for their actions throughout the international community. Outer space treaties must consider the successes and failures of previous treaties to create sufficient governing grounds in outer space.

III. DEVELOPMENTS IN OUTER SPACE

During the 2010s, the desire for outer space exploration reached a feverish high and created a new outer space race, one that introduced billionaires and a new variety of nation states expanding beyond the world's superpowers.³³ As humanity continues to develop technological innovations, access to outer space will become more available.³⁴ Significant resources are being dedicated to Reusable Launch Vehicle technology, which has become a vital element in the development of outer space exploration.³⁵ NASA has used government contracts with aerospace companies, like Northrop Grumman, to help design small scale propulsion systems, a new technology that could assist in deep space exploration.³⁶ Technology improvements that have the ability to increase the popularity and ease of space exploration are also likely to result in increased conflict among participants.

As recently as November 2021, the international community has seen how contentious participants in outer space exploration can be. On November 15, 2021, the United States' State Department accused Russia of recklessly testing an anti-satellite weapon and intentionally destroying one of its own satellites.³⁷ Russia later confirmed that it had conducted the test, but denied any allegations of wrongdoing and challenged the claim that it had put astronauts aboard the International Space Station (ISS) in danger.³⁸ After the anti-satellite weapon test, astronauts aboard the ISS were forced to seek cover on multiple occasions as the station passed through the debris field from the destroyed satellite.³⁹

Actions such as these have created legal questions involving liability.⁴⁰ What would have happened if the ISS had been damaged because of the debris field created by Russia's destruction of a satellite, or

³³ Phoebe T. Clewley, *Newspace: The Rise of the Private Space Industry is Threatening the Current Legal Framework Governing Outer Space*, 21 J. HIGH TECH. L. 354, 355 (2021).

³⁴ *Id.* at 835.

³⁵ Steve Freeland, *Up, Up and...Back: The Emergence of Space Tourism and Its Impact on the International Law of Outer Space*, 6 CHL J. INT'L L. 1, 2 (2005).

³⁶ Nancy Smith Kilkenny, *Small Spacecraft Electric Propulsion Opens New Deep Space Opportunities*, NASA (Apr. 18, 2022), <https://www.nasa.gov/feature/glenn/2022/small-spacecraft-electric-propulsion-opens-new-deep-space-opportunities> [https://perma.cc/JUM5-2PRL] (last visited, Jan. 10, 2023).

³⁷ Nadia Drake, *Russia Just Blew up a Satellite – Here's why that Spells Trouble for Spaceflight*, NATIONAL GEOGRAPHIC (Nov. 18, 2021), <https://www.msn.com/en-us/news/technology/russia-just-blew-up-a-satellite-here-s-why-that-spells-trouble-for-spaceflight/ar-AAQMueK?ocid=msedgntp> [https://perma.cc/Z886-6L3P] (last visited, Feb. 10, 2023).

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ See Kimitake Nakamura, *Space Debris and Liability Schemes under International Law*, SPACE POLICY INSTITUTE (June 10, 2020), <https://spi.elliott.gwu.edu/2020/06/10/space-debris-and-liability-schemes-under-international-law/> [https://perma.cc/V423-AK8G] (last visited, Mar. 15, 2023).

worse: what if an astronaut had lost their life? These are complex questions which the current language of treaties—such as “common asset” and “Common Heritage of Mankind”—do not provide answers for.⁴¹ The Common Heritage principle is equitable to the idea that outer space is a common area that exists to be shared amongst all humans, both current and future generations.⁴²

These two terms are used in the OST to define the common area of outer space to be shared amongst humans.⁴³ The Law of the Sea treaty has demonstrated there is precedent that the international community can adapt to changes while keeping to peaceful practices.⁴⁴ In contrast, the OST has not kept pace with the technological advancements that have taken place since 1957 and cannot adequately resolve present and future conflicts arising in outer space.⁴⁵ As a result, the consequences of outer space-based technologies transcend national borders and allow for the possibility of conflicting jurisdictions to arise.⁴⁶

The Russian incident is not a singular event; every country with a major presence in outer space has acted similarly at some time, causing risk to people and property.⁴⁷ There is cause for even greater concern when a nation is taking unknown actions in outer space. For example, The Peoples Republic of China (PRC) Shijian-21 spacecraft is a satellite with the stated purpose of cleaning up space junk.⁴⁸ However, during its orbit the United States Space Force Space Control Squadron identified a companion object in orbit alongside Shijian-21.⁴⁹ The unknown and unidentified presence of the additional object further supports the notion that better rules are necessary to ensure all spacefaring nations are acting in proper accordance to ensure safety and equality.

IV. UNENFORCEABLE TREATIES OF THE INDO-PACIFIC CONFLICT

Geopolitics are a dangerous game that will expand into outer space as the viability of space resources grows; an example of the pitfalls of geopolitics has been on display in the Indo-Pacific for decades.⁵⁰ Its waters

⁴¹ Freeland, *supra* note 35 at 2.

⁴² *Id.* at 63.

⁴³ *Id.* at 19.

⁴⁴ See Treves, *supra* note 28.

⁴⁵ Freeland, *supra* note 35 at 5.

⁴⁶ Zakary McLennan, *The Big Bang or a Black Hole? The Nexus Between Outer Space Patent Law and Commercial Investment in Outer Space*, 2019 MICH. ST. L. REV. 833, 864 (2019).

⁴⁷ Drake, *supra* note 37.

⁴⁸ George Dvorsky, *Space Force Detects Mystery Object in Orbit Alongside Chinese Satellite*, GIZMODO (Nov. 8, 2021), <https://www.msn.com/en-us/news/technology/space-force-detects-mystery-object-in-orbit-alongside-chinese-satellite/ar-AAQsBVf?ocid=msedgntp> [https://perma.cc/MV8W-6JLV].

⁴⁹ *Id.*

⁵⁰ Talha Ali Khawaja, *Clash of the Titans: The Indo-Pacific Conflict*, CENTRE FOR STRATEGIC AND CONTEMPORARY RESEARCH (Aug. 27, 2020), <https://cscr.pk/explore/themes/defense-security/clash-of-the-titans-the-indo-pacific-conflict/> [https://perma.cc/M2XE-5YYM] (last visited, Feb. 10, 2023).

are shared by many of the world's most powerful nations, including the PRC, Russia, Japan, Oceania Islands, and South Asia Nations, making the Indo-Pacific into a region analogous to an integrated outer space.⁵¹ The PRC is a rising superpower and considers the Indo-Pacific to be a critical area of control for the natural resources that can be collected within the Indo-Pacific region.⁵² The desire for control has created a region beset by deficit of strategic trust, unresolved territorial claims, and rapid transformation. Each of these factors are an individual cause of instability and conflict.⁵³ This tension has created a region where one small miscalculation may trigger a global economic recession and turn a peaceful region into a military flashpoint.⁵⁴ Therefore, the greatest concern with the expansion of outer space exploration and unenforceable treaties is territorial aggression leading to military flashpoints.⁵⁵

Multilateral treaties have been a stalwart of nations in the Indo-Pacific region which allows participating countries to live in peace and solidarity.⁵⁶ In an effort to create mutual defense funds, the Southeast Asia Treaty Organization and the Major Non-NATO Allies have been developed.⁵⁷ These two organizations were developed in an effort to defend their region.⁵⁸ However, the development of both treaties centered around the concept that "appropriate constitutional means to respond to an attack" were allowed only until the UN Security Council could intervene.⁵⁹ Unsustainability of these two organizations quickly led to their disbandment, and the nations of the Indo-Pacific are still searching for a new solution to protect their interests.⁶⁰

A. The Association of Southeast Asian Nations

The only treaty in the Indo-Pacific with the goal of providing regional security and economic and social stability for the region is the Association of Southeast Asian Nations (ASEAN).⁶¹ The ASEAN is unique because it contains provisions all members must adhere to.⁶² These types of provisions can strengthen a multi-lateral agreement by ensuring that enforceability mechanisms exist which require international adherence.⁶³

⁵¹ LT. COL. Benjamin D. Youngquist, *Examining America's Treaty and Alliance Structure in the Indo-Pacific*, J. OF INDO-PACIFIC AFF., <https://media.defense.gov/2021/Jun/03/2002733836/-1/-1/0/YOUNGQUIST.PDF/YOUNGQUIST.PDF> [https://perma.cc/5H26-6745] (last visited, Feb. 10, 2023).

⁵² *Id.*

⁵³ Sambhi, *supra* note 21.

⁵⁴ Khawaja, *supra* note 50.

⁵⁵ West, *supra* note 1.

⁵⁶ Khawaja, *supra* note 50.

⁵⁷ Youngquist, *supra* note 51.

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ *Id.*

⁶² *Id.*

⁶³ Sambhi, *supra* note 21.

These provisions include: mutual respect for independence; equality; settlement of differences or disputes by peaceful manner; renunciation of the threat or use of force; and effective cooperation among themselves.⁶⁴

Treaties are only as strong as the members who are willing to enforce the rules as established.⁶⁵ The ASEAN attempts to remedy these problems through two different established bodies.⁶⁶ The language of the ASEAN requires an annual meeting to coordinate efforts to address challenges that the member nations are facing.⁶⁷ These meetings are conducted under the pretext of opportunities to build trust and focus on security issues and the development of humanitarian action.⁶⁸ However, the ASEAN is just another example of the limited effectiveness in the mechanisms used and their failures to prevent conflict.⁶⁹ The conflict within the South China Sea instigated and aggressed by the PRC provides evidence that even multi-national accords are insufficient to defend and protect members when the larger international community is unwilling and unable to act.

B. The PRC's Influence on Indo-Pacific

The South China Sea is a hotbed for conflict and represents one possible scenario that could be replicated where space law fails. The end of the Cold War created a power vacuum, and as a result competition for the resource abundant South China Sea unfolded.⁷⁰ The race to develop and control the resources present in the region created tension among neighbors that is still seen and felt on a global scale today.⁷¹ A struggle to control the abundant resources in outer space will echo the conflict in the South China Sea and only create greater global tensions among the nations looking to utilize outer space resources.

The PRC is known for its desire to expand and influence the Indo-Pacific Region by taking advantage and utilizing the failures of the ASEAN.⁷² The most pertinent example that impacts the geopolitical atmosphere is the PRC's territorial expansion and the ensuing disputes.⁷³ Disputes in the Indo-Pacific have led to the reclaiming of contested land, building of infrastructure, and movement of military troops and hardware by different members of the international community.⁷⁴ The PRC has a

⁶⁴ Youngquist, *supra* note 51.

⁶⁵ *Id.*

⁶⁶ See LT. COL. Youngquist, *supra* note 51, at 164.

⁶⁷ *Id.*

⁶⁸ *Id.*

⁶⁹ Sambhi, *supra* note 21.

⁷⁰ See Krchnak, *supra* note 18 at 383.

⁷¹ See *id.*

⁷² See LT. COL. Youngquist, *supra* note 51 at 158.

⁷³ Eleanor Freund, *Freedom of Navigation in the South China Sea: A Practical Guide*, HARV.

BELFER CTR., (Jun. 2017), <https://www.belfercenter.org/publication/freedom-navigation-south-china-sea-practical-guide> [https://perma.cc/PA5J-Y56V] (last visited Feb. 10, 2023).

⁷⁴ *Id.*

focus on “coercive diplomacy” which applies economic and military influence in the Indo-Pacific to change conditions and legitimize their claims.⁷⁵ Coercive diplomacy has resulted in the PRC’s building of reef islands and continued refusal to recognize the UN Convention on the Law of the Sea.⁷⁶ Actions like these have created tensions between the PRC and other members of the ASEAN.⁷⁷ However, without a true enforcement method to support their claims, ASEAN members are almost powerless to prevent coercive diplomacy on the part of the PRC.⁷⁸

As a direct adversary to the PRC’s political influence, the Taiwanese government fears that the PRC’s endeavors to reunify the island will lead to regional instability and worldwide catastrophe.⁷⁹ The PRC refuses to stand down and continues to pressure Taiwan under the guise of reunification, requiring the Taiwanese government to be prudent and consistently monitor the PRC’s military activity.⁸⁰ If a conflict breaks out between Taiwan and the PRC, experts expect it would have catastrophic consequences.⁸¹ While international communities remain determined to defend international law, there is concern amongst the international community that a PRC invasion of Taiwan would expand into a conflict with international consequences.⁸² Some in the Taiwanese government believe that if they were to lose their sovereignty to the PRC, Australia would be next, creating a domino effect and allowing the PRC to implement its influence throughout the Indo-Pacific Region.⁸³

States with questionable motives and goals, like the PRC, create security dilemmas where policies of deterrence and reassurance are necessary.⁸⁴ If internationally recognized treaties, like the ASEAN, are disregarded by its signatories, how will spacefaring nations avoid territorial conflicts with nations implementing similar strategies in outer space?

⁷⁵ LT. COL. Youngquist, *supra* note 51 at 160.

⁷⁶ *Id.*

⁷⁷ Sambhi, *supra* note 21.

⁷⁸ *Id.*

⁷⁹ Eleanor Hamilton, *China-Taiwan Conflict: Taiwanese MP Says Beijing Could Cause Harm Over Indo-Pacific While Trying to Reunify Island*, THE REPUBLIC MONITOR (Nov. 1, 2021), <https://republicmonews.com/2021/11/01/china-taiwan-conflict-taiwanese-mp-says-beijing-could-cause-harm-over-indo-pacific-while-trying-to-reunify-island/> [https://perma.cc/65CH-VFX5] (last visited, Feb. 10, 2023).

⁸⁰ *Id.*

⁸¹ *What could happen if China Tried to invade Taiwan?*, THE WEEK UK (Dec. 21, 2021), <https://www.msn.com/en-us/news/world/what-could-happen-if-china-tried-to-invade-taiwan/ar-AA51ry6> [https://perma.cc/NBA8-EVBR] (last visited Feb. 10, 2023).

⁸² *Id.*

⁸³ *Id.*

⁸⁴ See Thomas J. Christensen, *The Contemporary Security Dilemma: Deterring a Taiwan Conflict*, THE WASH. Q., Autumn 2002.

C. The Issue with Outer Space Law

The current framework for outer space law was developed during the Cold War, when technology made outer space exploration possible.⁸⁵ Because outer space travel was novel at the time, the drafters of the original outer space treaties only had the foresight to address a limited number of issues and concerns.⁸⁶ The failure to address the societal and technological changes on Earth has resulted in missing provisions on essential subjects.⁸⁷ To develop successful outer space treaties, a mechanism for conflict management, such as a UN peace keeping force, is necessary to effectively tackle security challenges and economic transformations.⁸⁸

The UN Committee on the Peaceful Uses of Outer Space (UNCOPUOS) is the central legislative body dealing with outer space and outer space activities.⁸⁹ UNCOPUOS develops treaties that are ratified by every country that has entered, or plans to enter, outer space to utilize its resources.⁹⁰ Current UNCOPUOS treaties do not anticipate the expanded use of outer space; furthermore, the resolutions are nonbinding as they constitute rules that are neither strictly binding nor completely lacking in legal significance.⁹¹ This scenario has created nonbinding “soft law.”⁹²

Unfortunately, multilateral negotiation efforts to resolve specific legal issues have yet to produce results.⁹³ Multilateral treaties offer a mechanism for conflict management necessary to tackle security challenges and economic transformations effectively.⁹⁴ However, treaties also impose challenges and the “[l]aw of outer space most vividly illustrates the problems inherent to multilateral treaty-making.”⁹⁵

1. The Outer Space Treaty

Two treaties have shaped the world’s initial approach to space law. The failures of these treaties illustrate the need for further development as the new space race takes off.

The first treaty was the OST of 1967.⁹⁶ Now over 50 years old, the treaty has failed to keep pace with modern technological advances.⁹⁷ The

⁸⁵ Clewley, *supra* note 33, at 355.

⁸⁶ *Id.*

⁸⁷ Gennady M. Danilenko, *Outer Space and the Multilateral Treaty-Making Process*, 4 HIGH TECH. L.J. 217, 220 (1990).

⁸⁸ *See* Sambhi, *supra* note 21.

⁸⁹ Danilenko, *supra* note 87, at 223.

⁹⁰ *See id.* at 229.

⁹¹ Freeland, *supra* note 35, at 5.

⁹² *Id.*

⁹³ Danilenko, *supra* note 87, at 218.

⁹⁴ Sambhi, *supra* note 21.

⁹⁵ Danilenko, *supra* note 87, at 217.

⁹⁶ Krause, *supra* note 16.

⁹⁷ *See id.*

OST addresses the military use of outer space and establishes that outer space is a demilitarized zone.⁹⁸ The OST was developed to act similarly to maritime law, emphasizing that peaceful navigation is a right given to all nations.⁹⁹

The United Nations developed the OST to establish a basic framework for an international legal regime in outer space.¹⁰⁰ Ratifiers of the OST wanted to ensure that the use of outer space was for the “benefit of mankind.”¹⁰¹ The treaty tries to accomplish this goal by providing that outer space is not subject to national appropriation; outer space must be used exclusively for peaceful purposes.¹⁰² Finally, the OST provides that any nation which has ratified the treaty bears responsibility for its activities in outer space, including liability for damages the nation’s activity may have caused.¹⁰³ Unfortunately, over the last 50 years, incidents such as Russia’s destruction of satellites have proved that not all nations will adhere to the treaties’ provisions.

Critics of the OST have found many deficiencies within the treaty.¹⁰⁴ One of the significant failures of the OST is the need for more regulation of the Moon and other outer space resources.¹⁰⁵ The OST’s additional problems include a unique feature of space law, “direct attribution.”¹⁰⁶ Direct attribution requires every nation to be “directly responsible for the activities its citizens engage in above Earth.”¹⁰⁷ Direct attribution was a focal point of the OST during its development because of the drafters’ desire to address military, scientific, and political questions during the Cold War.¹⁰⁸ Unfortunately, this narrow focus failed to develop sufficient tools to manage commercial actors, leaving a gap in the law as nations race to harvest resources from outer space.¹⁰⁹

While a gap in the law is concerning, the OST created greater concern after its ratification: the OST provides no language creating an international court that could be called upon to settle a space law dispute.¹¹⁰ The International Criminal Court (ICC) was created by multilateral treaty and allows for prosecution of clear breaches of the law.¹¹¹ But, even where there is a clear breach of international law, the breach does not necessarily lead to criminal prosecution.¹¹² The ICC only

⁹⁸ *Id.*

⁹⁹ *Id.*

¹⁰⁰ Danilenko, *supra* note 87, at 218.

¹⁰¹ *Id.* at 219.

¹⁰² *Id.*

¹⁰³ *Id.*

¹⁰⁴ Wilson, *supra* note 6, at 174.

¹⁰⁵ *Id.*

¹⁰⁶ Krause, *supra* note 16.

¹⁰⁷ *Id.*

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

¹¹⁰ *Id.*

¹¹¹ Stacie Powderly, *Case Study Illustrating the Shortcomings of International Criminal Law: Chechnya*, 82 WASH. U. L.Q. 1553, 1583 (2004).

¹¹² *Id.*

has jurisdiction under two circumstances.¹¹³ First, the ICC may prosecute when a crime has occurred on the territory of a state that is a party to the applicable treaty.¹¹⁴ Because the OST specifically states space is to remain the “province of all mankind,”¹¹⁵ a nation cannot claim outer space as territory and would therefore escape prosecution by the ICC. The second mechanism where the ICC may pursue prosecution is when “the person accused is a national of a state that is a party to the treaty.”¹¹⁶ This also creates uncertainty regarding how a party that signed the OST may be sued. How does one define “the person” of the nation accused of violating the OST? The focus on preventing militarization in space left gaps in the law that the international community cannot remedy. These failures have made getting new and emerging space powers to join the current treaty regime difficult, compounding issues with treaty enforcement.¹¹⁷

2. The Moon Treaty

Another modern failure amongst space-faring nations is the Moon Treaty. The Moon Treaty was developed in 1979 with the ambitious plan to create an international regime capable of governing the exploitation of the Moon’s natural resources.¹¹⁸ The Moon Treaty’s primary objective is to provide “necessary legal principles for governing the behavior of states, international organizations, and individuals who explore celestial bodies.”¹¹⁹ Other treaty objectives include the assurance of peaceful use of the celestial bodies and adherence to earlier treaties, such as the OST.¹²⁰ These guidelines, while ambitious, are set out to achieve equitable, cooperative, and harmonious exploration and development of space.¹²¹

Despite the Moon Treaty’s aims, it failed in many areas.¹²² For example, the Moon Treaty failed to provide adequate mechanisms to ensure its legal principles were clear, defined, and enforceable.¹²³ Additionally, only thirteen nations have ratified the Moon Treaty.¹²⁴ Even if the Moon Treaty were enforceable through the ICC or another international mechanism, a lack of adoption has left the Moon Treaty unable to protect space resources from potential bad actors. The Moon Treaty also falls short regarding the advancement of meaningful legal provisions, as it is nothing more than a reiteration of powerless

¹¹³ *Id.*

¹¹⁴ *Id.* at 1584.

¹¹⁵ Danilenko, *supra* note 87, at 218.

¹¹⁶ Powderly, *supra* note 111, at 1584.

¹¹⁷ Krause, *supra* note 16.

¹¹⁸ *Id.*

¹¹⁹ Wilson, *supra* note 6, at 174.

¹²⁰ *Id.*

¹²¹ *Id.* at 175.

¹²² *Id.*

¹²³ *Id.* at 174.

¹²⁴ Krause, *supra* note 16.

enforcement mechanisms presented in older treaties.¹²⁵ These failures to develop and ratify enforceable treaties raise concerns about whether the OST, Moon Treaty, or any other treaty developed by UNCOPOUS can adequately resolve outer space disputes.¹²⁶

3. *The Use of National Laws*

Due to the failures of international treaties to address the issues surrounding outer space law, many nations have used bilateral law to provide guiding principles for their outer space programs.¹²⁷ A substantial body of domestic law principles govern the exploration of outer space.¹²⁸ Due to the distinct nature of bilateral law-making states have enacted national legislation with several different approaches.¹²⁹ Most often, the framework outlined in these national guidelines is adapted to the specific needs of the signatories and the practical range of outer space activities they plan to regulate.¹³⁰ This means that unlike the OST and the Moon Treaty, the bilateral framework typically focuses on technologies or operations and does not address territorial claims.¹³¹ However, domestic laws to govern outer space fall short, as they often provide conflicting claims of jurisdiction.¹³² Such claims between international bodies can lead to conflict.

The United Kingdom has outlined a strategy to develop into an international space power that promotes an “open and stable international order.”¹³³ However, United Kingdom leaders have provided few details regarding how the government will support an open and stable international order.¹³⁴ The British government recognizes that outer space endeavors are becoming increasingly important and competitive, and they must not be left behind.¹³⁵

The failure of national space laws is exemplified by the approach the United Kingdom has taken. While the approach recognizes the challenges of space, recognition of these issues alone is insufficient to solve all the

¹²⁵ Wilson, *supra* note 6, at 178.

¹²⁶ *Id.* at 175.

¹²⁷ *Id.* at 178.

¹²⁸ Freeland, *supra* note 35, at 4.

¹²⁹ National Space Law, UNITED NATIONS OFFICE FOR OUTER SPACE AFFAIRS, <https://www.unoosa.org/oosa/en/ourwork/spacelaw/nationalspacelaw.html> [https://perma.cc/XB89-QPLT] (last visited Feb. 10, 2023).

¹³⁰ *See id.* Source provides a library of bilateral agreements different nations have signed onto as part of the regulation of outer space.

¹³¹ *Id.*

¹³² McLennan, *supra* note 46, at 863-864.

¹³³ Jeff Foust, *British Government Releases National Space Strategy*, SPACENEWS (Sept. 28, 2021), <https://spacenews.com/british-government-releases-national-space-strategy/> [https://perma.cc/HR8V-EPP6] (last visited Feb. 10, 2023).

¹³⁴ *Id.*

¹³⁵ Rajeev Suri, *Op-ed: Putting the UK's new Space Strategy into Action*, SPACENEWS (Sept. 28, 2021), <https://spacenews.com/op-ed-putting-the-uks-new-space-strategy-into-action/> [https://perma.cc/AYA4-HKY7].

issues that will be faced.¹³⁶ Thoughtful implementation of space strategy will be necessary for nations enacting new nationally governing space laws for lawful cooperation in order to participate within the industry.¹³⁷

V. SOURCES OF FUTURE CONFLICT

The language provided in current treaties governing outer space leaves a lot to be desired in terms of foreseeing future conflicts and providing resolution mechanisms. The OST provides that outer space shall remain the “common heritage” of mankind.¹³⁸ However, the OST fails to expand on what this language means, which has led to much disagreement throughout the international community over the legal status of the natural resources found in celestial bodies.¹³⁹

The conflicts raging in the Indo-Pacific are examples of the tension that can be created when the stated enforcement mechanisms of a treaty fail to provide adequate protection. The Indo-Pacific is not only an economic hub but also a strategic nerve of the world with an accumulated GDP of approximately \$67 trillion.¹⁴⁰ Recognizing its value, the PRC has found that control of this region would be a major “ticket to hegemony” the global economy.¹⁴¹ In its bid to gain the economic influence it desires, the PRC has conducted reef building activities in the Indo-Pacific, in clear violation of the UN Convention on the Law of the Seas.¹⁴² These activities have continued because the members of the treaties, established by the ASEAN, have created no functional mechanism to properly sanction and stop a major global power.¹⁴³ Space will be viewed as the next great market of influence with access to resources that are expected to dwarf the current global economy.¹⁴⁴ With such vast resources and wealth expected to be accessible, it is easy to anticipate that future claims over outer space territory will mirror the actions seen in the Indo-Pacific.

Territorial claims will not be the only source of future conflict in space that a successful treaty will need to address. With Russia shooting down its own satellite, there is great concern in the international community over damage caused by objects and tools owned by space faring nations.¹⁴⁵ In March of 2021, an old and defunct Russian rocket

¹³⁶ See *id.*

¹³⁷ See *id.*

¹³⁸ Wilson, *supra* note 6, at 175.

¹³⁹ *Id.*

¹⁴⁰ See Ali Khawaja, *supra* note 50.

¹⁴¹ See *id.*

¹⁴² Youngquist, *supra* note 51, at 165.

¹⁴³ See Jim Garamone, *DOD Working Toward Networked Indo-Pacific*, DOD NEWS (Aug. 31, 2020), <https://www.defense.gov/News/News-Stories/Article/Article/2330412/> [https://perma.cc/UJW4-7NPP].

¹⁴⁴ See Karla Lant, *Ambiguous Laws Could Prevent us from Taking Full Advantage of Celestial Resources*, FUTURISM (Aug. 31, 2017), <https://futurism.com/ambiguous-laws-could-prevent-us-from-taking-full-advantage-of-celestial-resources> [https://perma.cc/7R4P-H2EC].

¹⁴⁵ *Id.*; See also Bender, *supra* note 13.

crashed into a Chinese satellite, the first major orbital collision in more than a decade.¹⁴⁶ While not a catastrophic collision, these types of incidents create worrying circumstances for future space endeavors.¹⁴⁷

The 1972 Convention on International Liability for Damage Caused by Space Objects was specifically developed to ensure that these events did not go unpunished or unnoticed.¹⁴⁸ However, neither Russia nor the PRC commented publicly on the incident, so liability could not be properly assigned.¹⁴⁹ With the new ever-expanding space race, as outer space gets more crowded and new technologies allow new nations to develop space programs, claims will only increase.

VI. SOLUTIONS

To ensure the new space race is successful and achieves the goals laid out in the OST, new enforceable mechanisms will be required. The events taking place in the South China Sea offer the sobering message that uniting the international community is unrealistic, and therefore more aggressive measures will need to be put in place to monitor space.

The Manual on International Law Applicable to Military Uses of Outer Space (MILAMOS) Project is an organization with the goal of developing limitations imposed by international law on the threat of use of force in outer space.¹⁵⁰ Favorable distribution of power to deter and prevent adversaries from directly threatening other international outer space participants would limit the threat of force in outer space.¹⁵¹ A successful distribution of power will prevent territorial aggression reminiscent of the conflict in the Indo-Pacific by providing greater international support against an aggressor nation. The use of treaty organizations comparable to NATO would help in moderating the conduct of individual states. ASEAN does not have a provision with the goal of conflict mitigation and assistance from a larger, more influential body; an indicator as to why they may struggle to resist the PRC's influence.¹⁵² The use of stronger organizations reflective of the influence that NATO provides would allow for future space treaty organizations to provide

¹⁴⁶ Morgan McFall-Johnsen, *A Chinese Satellite Seems to have Collided with a Piece of a Russian Rocket in March – the First Big Space Crash in a Decade*, BUSINESS INSIDER (Aug. 18, 2021), <https://www.businessinsider.com/chinese-satellite-russian-rocket-piece-may-have-crashed-in-space-2021-8?op=1> [https://perma.cc/C7XK-ZG45].

¹⁴⁷ *Id.*

¹⁴⁸ *Convention on International Liability for Damage Caused by Space Objects*, UNITED NATIONS (1973), https://www.faa.gov/about/office_org/headquarters_offices/ast/media/Conv_International_Liab_Damage.pdf

[https://perma.cc/34MB-9RWE] (last visited Mar. 2, 2023).

¹⁴⁹ McFall-Johnsen, *supra* note 146.

¹⁵⁰ McGill, *supra* note 19.

¹⁵¹ See Garamone, *supra* note 143.

¹⁵² Youngquist, *supra* note 51.

security as well as economic and social stability over the quest for outer space resources.¹⁵³

Limiting influence and power is not the only available solution to resolving future outer space disputes. The current treaties that guide outer space objectives have all been developed in a reactive manner by addressing issues that were already happening and failing to look forward to future conflict.¹⁵⁴ To keep pace with the technological advances that make the exploration of outer space possible, future treaties will need to be more proactive. To ensure this is successful, UNCOPOUS will need to draft new treaties that remove the confusing and conflicting language of the OST and provide concrete guidelines. In addition to concrete guidelines, new treaties need to include proper language to ensure that international courts can address the issues that take place in space. When conflicts occur outside of defined territory, or when actors can be positively identified, international courts need to have the power to intervene.

Another UN tactic that could be utilized in outer space is the development and use of networked regions. Former Secretary of Defense Mark Esper defined a networked region as “a collection of like-minded countries working together.”¹⁵⁵ This philosophy creates relationships and promotes contact, coordination, and integration between regions to provide the free and open use of an area.¹⁵⁶ Countries with common and shared interest that are willing to commit resources to support the pursuit of a common task can lead to successful implementation.¹⁵⁷ The most prevalent example of an expanded influence to create a networked region is the UN Security Council resolution on North Korea.¹⁵⁸ A coalition of countries including the United States, Japan, South Korea, and France have worked together to share resources and information and ensure that sanctions placed on North Korea for violations of international law are impactful.¹⁵⁹

A. Enforceability Mechanisms

No treaty is complete without enforceability mechanisms written in to ensure that the attested members adhere to the proscribed restrictions and guidelines. One of the greatest difficulties with enforcement of treaties is that they are nonbinding unless two conditions have been met. First, the procedural rules of the forum state governing implementation have been

¹⁵³ *Id.*

¹⁵⁴ Wilson, *supra* note 6, at 175.

¹⁵⁵ Garamone, *supra* note 143.

¹⁵⁶ *Id.*

¹⁵⁷ *See id.*

¹⁵⁸ *Id.*

¹⁵⁹ *Id.*

followed, and second, there is a clear and express statement.¹⁶⁰ This makes the implementation of an international judicial system to enforce treaty restrictions nearly impossible.

Dispute resolution for specific disagreements must be established in a ratified treaty.¹⁶¹ The greatest weakness of the OST is its lack of dispute resolution provisions. A simple solution is to discard the current treaties governing outer space and develop new treaties that include enforceability language. Any new treaty developed to govern space must include language that provides the ICC with jurisdiction over disputes from outer space activities. Because UNCOPOUS can precisely define terms currently being used, such as “province of mankind,” enforcement by the ICC is a more feasible avenue for providing stability. The ability for the ICC to hear and settle international disputes that develop in space would provide a backbone for member countries to resist any territorial control efforts from other space-faring nations. ICC jurisdiction may not prevent countries like the PRC from trying to take advantage of the resources of outer space to become more influential in the global economy, but it would provide a disciplining branch to put such activities in the spotlight.

The UN Security Council should also be held accountable for taking a greater responsibility to ensure outer space remains free for all nations who wish to explore the final frontier. The UN Security Council can adopt measures to enforce decisions regarding international peace and security.¹⁶² In order to avoid territorial claims that jeopardize international peace and security, the UN Security Council should develop guidelines that create defined sanctions for certain actions which take place in outer space. For example, if a treaty provides that countries are only allowed to utilize the resources from specific asteroids and another signatory intrudes on that right, the UN Security Council should be able to apply sanctions on the space program of the usurping country.

A final mechanism that could be utilized to ensure space nations are operating in a cooperative and safe manner is compliance reporting. Compliance reporting allows for a treaty-monitoring body to apply pressure when treaty members are acting in a non-compliant manner.¹⁶³ For compliance reporting to be successful, it would need to be tied to an international body that has influence. The most logical body to entrust with compliance monitoring would be UNCOPOUS; however, as newer bodies lack an enforceability mechanism, they do not have the same political influence and authority as the UN Security Council. Compliance reporting by UNCOPOUS combined with the sanction abilities of the UN Security

¹⁶⁰ 16 Ohio Juris. 3d Const. L. § 165.

¹⁶¹ *Id.*

¹⁶² *Id.*

¹⁶³ Frederic L. Kirgis, *Enforcing International Law*, AMERICAN SOCIETY OF INTERNATIONAL LAW, (Jan. 22, 1996), <https://www.asil.org/insights/volume/1/issue/1/enforcing-international-law> [<https://perma.cc/C3UC-ACMV>].

Council would ensure that outer space remains a province where all mankind and resource utilization can benefit all space-faring nations.

VII. CONCLUSION

The Indo-Pacific clearly indicates that a network of overlapping bilateral and multilateral agreements is insufficient to provide regional security. When a country expands beyond the limits of Earth and into outer space, treaties and agreements with stronger enforceability mechanisms will be required to ensure compliance and equal access to the vast resources space provides. Agreements that solve only immediate issues surrounding outer space law are insufficient to address the most advanced and mesmerizing aspect of human life. A common aspect of the law is that it tends to lag behind technological advances. These failures of the law will continue to hold true if the international community does not come together to ratify a new outer space treaty with complete enforcement mechanisms that can keep up with the modern space race.