

Unresolved Cold War Issues of Contemporary Outer Space Arms Control Efforts

Abstract: *The ineffectiveness of the existing space law treaties has allowed spacefaring nations to enhance their strategic capability, which has resulted in an increase in militarization and weaponization. Military use of the outer appears to be dominated by power politics, and there are uncertainties surrounding space governance and resources. Neither the established nor the emerging spacefaring states have actively engaged in arms control negotiations, including "Transparency and Confidence Building Measures (TCBMs)". In this article, the argument has been made that during the initial stages of the space race, various spacefaring nations agreed that the environment in outer space should be approached in a different manner; however, issues of military use of space and weaponization were not fully resolved through negotiations. These issues continue to persist in space law treaties in the form of legal lacunas. If leftover issues from the Cold War rivals are not resolved, the militarization of space will continue to increase.*

Key Words: Transparency and Confidence Building Measures, Legal Lacunas, Deterrence, Cold War Arms Control and Disarmament, Space faring Nations, Power Politics

Introduction

During the Cold War, the development of space weapons led to the creation of outer space. The Soviet Union launched the first artificial satellite known as Sputnik I in 1957. The satellite was designed to launch a missile. It was also regarded as a technological achievement that demonstrated the Soviet Union's military capabilities with potentially devastating geopolitical ramifications for the rival alliance ([Jasentuliyana, 1995, 385-395](#)). Military objectives were the driving force to access space. The Soviets acquired a

strategic and technological advantage over the United States with this successful launch. As space pioneers, the Soviet Union casts a shadow over America's position as the world's scientific and technological leader. The Soviet Union's advancements in space significantly enhanced the insecurity of the global system ([Hays, 2011, 2](#)).

As the US sought to take over the upper hand in the Cold War, it started to expand its capabilities in outer space. This was done with the goal of not matching the Soviet Union's military power. Rather, it sought to be ahead of the Soviets. Consequently,

* Erin J. C. Arsenault Research Fellow at the Institute of Air and Space Law, McGill University, Montreal, Canada. Email: shakeel.ahmad@mcgill.ca (Corresponding Author)

† Associate Professor, Department of Pakistan Studies, National University of Modern Languages, Islamabad, Pakistan.

‡ Assistant Professor, Department of Political Science, Islamia University of Bahawalpur, Punjab, Pakistan.

during the process of negotiating the Outer Space Treaty, there was some resistance to completely prohibiting outer space for “the use of military purposes”. As a consequence of this, legal loopholes in the Treaty were purposefully left unaddressed, which allowed for the further militarization of space.

During the Cold War, there were various diplomatic initiatives aimed at preventing nuclear weapons from being placed in outer space. In the same era, there were diplomatic initiatives to limit the arms race and avoid the placement of nuclear weapons in space. In "the 1950s, Soviet Premier Nikita Khrushchev" noted that the two countries' "cooperation in the peaceful use of outer space" would lead to the solution of the issue of arms control ([Shackelford, 2014, 457](#)). During the same time period, the Kennedy administration publicized the US position on limited weapons control and clarified the US position on arms control negotiations for the peaceful utilization of outer space ([National Security Action Memoranda, 1963](#)).

Before the establishment of NSAM 156, the US government had been promoting the image of being “a leader in the peaceful use of outer space” ([National Security Council Report, 1958](#)). Later on, the same position was taken in the UNGA Resolutions of 1884 on October 17, 1963, which led to a consensus for the 1963 Partial Nuclear-Test-Ban Treaty (PTBT) ([UNTC, 1963](#)). States acknowledged the exclusion of "Weapons of Mass Destruction (WMD)" in outer space, which led to negotiations "for peaceful uses of outer space" ([Boothby, 2018, 337-358](#)). At the beginning of the space race, there was a general consensus that space is a distinct environment that must be approached cautiously. Recognizing the sensitivity of the environment in space, the 1963 PTBT banned nuclear tests in space.

Based on this balance of power situation, both space powers decided to

“prevent the placement” of WMD in space. In this regard, a resolution adopted by UNGA declared free for exploration and “not subject to national appropriation” through the “claim of sovereignty or any other means. It paved the way for the Outer Space Treaty” (OST) of 1967 ([UNOOSA, 1967](#)). OST laid the constituent structure for the existing space administration of peaceful utilization of outer space environment and resources. Both spacefaring nations understood that preventing WMD in space was in their shared interest. There were significant worries about the vulnerability of space facilities and the possibility of nuclear accidents in space. At that time, placing nuclear weapons was never considered a strategic manoeuvre to attain political and military objectives.

Currently, for both military and peaceful drives, outer space is used, and the militarization of space continues. There is no comprehensive, effective, and unambiguous "ban on the weaponization of space", and the United Nations negotiations and debates on how to prevent the placement of WMD in outer space also continue ([Dobos, 2018, 4](#)). This article identifies flaws that contribute to space militarization and reviews weapons control and disarmament measures. The article compares past and present arms control efforts. It argues that putting weapons in space violates international law, and States should not build space weapons for deterrence or for offensive purposes. The significance of confidence-building measures (CBMs) and arms control and disarmament has also been brought to light using a normative approach.

This article has used the terms "militarization" and "weaponization" interchangeably, but there are some differences between the two. Militarization denotes growth in support for military activities by using institutions, utilization of new space-related technologies and allocations of funds. The US led the development of military satellites and developed a space environment with 40%

military satellites ([Arbatov et al., 2011](#)). However, militarization may also involve weaponization which entails the creation or expansion of arms often designed for use in warfare. "The militarization and weaponization of space" undermine transparency and collaboration initiatives.

Institutional Initiatives

The UN established UNCOPUOS on December 13 1958, "an ad hoc committee" to discuss "the peaceful uses of outer space". It was given the responsibility for initiating the initial steps to achieve arms control and disarmament ([UNOOSA, 1958](#)). On December 12, 1959, the UNCOPUOS was given the status of a permanent committee by the ([UNOOSA, 1959](#)). This Committee, which makes decisions by reaching a consensus among its members, has been given the responsibility of addressing issues concerning the peaceful applications of space; issues concerning the application of "space for military purposes" have been assigned to the Conference on Disarmament (CD). The work done by UNCOPUOS led to the creation of all five of the United Nations outer space treaties.

The term "outer space" was first used in a global agreement in the PTBT of 1963. The US and Soviet Union both ratified the treaty article 1, paving the way for the OST-1967. During the course of the OST negotiation process, the states had committed to limit their military "use of space in a number" of different ways. They came to an understanding that they would not place nuclear or other weapons of mass devastation in geosynchronous orbit above the planet, install them "on celestial bodies", or deploy them into space.

The idea of a satellite that could carry a nuclear bomb was not only taken down by both of the world's leading space powers but it was also regarded as an unreasonable military strategy for either camp. At that time, according to the explanation provided

by the US Deputy Secretary of Defense, there was no question that either the US or USSR could place thermonuclear weapons in orbit. In the foreseeable future, such a move was not a wise military strategy for any side ([Cohen, 1964](#)).

The use of conventional weapons was not restricted by "Article IV of the OST", in contrast to WMD and the development of nuclear arms. The second part of the provision stated that states would not test weapons or construct "military installations on the Moon or any other celestial bodies". However, these commitments did not extend to "outer space" or artificial satellites or objects. Spacefaring states have conducted armament experiments and expanded their military capabilities in space by taking advantage of the legal gaps.

The substantial strategic relevance of space has led to an expansion in the militarization of space, and the legal loopholes in the various treaties that are now in place are allowing states to find their strategic interests in space. As in the Cold War, norm-setting and power politics were in equilibrium. However, given the current multipolar nature of the world, it is difficult to predict when or how this equilibrium will be restored.

Disarmament and comprehensive arms control in space are dependent on the political will of the major powers. Additional efforts in the direction "of arms control and disarmament" have resulted from the agreement on the non-deployment of

WMD and to regulate space activities ([Meyer, 2011, 1-3](#)). The next part provides an analysis of such initiatives, which have been made through the CD's platform and "the Prevention of an Arms Race in Outer Space (PAROS)" initiative.

Through CD: PAROS was initially discussed during the UN's Tenth Disarmament Special Session in 1978. Research carried out by the Stockholm

International Peace Research Institute precisely pointed out the widespread development of military uses of space ([Jasani, 1982](#)). This study had a substantial influence. Therefore, the search for control over space-based weapons commenced immediately. In this regard, in 1981, when the Soviet Union launched its military space program, the subject of forbidding space weaponry was taken up on the UNGA agenda in the form of a draft treaty on the issue ([Alves, 1991, 5](#)). It is also important to mention that in the tenth "special session of UNGA on disarmament", the Soviet Union had also proposed measures "to prevent a space arms race". In the same session, it was uncovered that despite the OST's ban on nuclear and other WMD, new types of weaponry were continuously being tested. Despite widespread international support for four resolutions on PAROS and other space treaties, Cold War tensions were building as the US and Soviet forces developed counter-space and ASAT missile systems. In response to the UNGA's request, the CD created "an Ad Hoc Committee on PAROS in March 1985" to examine concerns related to preventing a space arms race ([Meyer, 2011, 1-3](#)).

As a result of the "same directive, the UN Institute for Disarmament Research (UNIDIR)" worked on spacefaring states' suggestions ([UNODA, 1983](#)), and an international monitoring organization was proposed to prevent a space arms race. The "French proposal was to establish an International Satellite Monitoring Agency (ISMA)", while the Soviet Union proposed the International Space Monitoring Agency (ISMA). In this regard, a report was prepared that recognized that satellite monitoring may help verify disarmament agreements and establish international confidence ([Jasani, 1982](#)). The report concluded that from a technical perspective, satellites for verifying treaty compliance are "both possible and feasible," as there was no prohibition against an international

governmental organization like ISMA from monitoring by satellite ([Fawcett et al. 1983, 45-53](#)). It was fully acknowledged that satellite surveillance might make to the verification of specific aspects or types of arms control and disarmament agreements.

The Soviet Union remained mute on this matter, and the United States opposed the original proposal to establish ISMA. The majority of European nations firmly supported the program. Japan and Canada supported the proposal, but they believed its success was contingent on the Soviets and the US taking the initiative ([Fawcett et al. 1983, 45-53](#)).

The use of available satellite surveillance was intended to foster the confidence and trust that are prerequisites for more effective international peace efforts. A proposal to establish ISMA was debated at the UN level, and it attracted widespread support for transparency and CBM in space. Soviet and US were unable to support the plan; nonetheless, other initiatives for CBMs persisted, as described below.

Efforts of Confidence Building Measures

A number of further suggestions for TCBMs in space were proposed at the level of CD. Few proposals included CBMs on a reciprocal and voluntary basis, and it was recommended that the CD should call on the space powers to exchange information about their current and prospective actions in space and show their comprehension of and compliance with relevant treaty commitments. The development and testing of new satellites, as well as their deployment, were prohibited under the Treaty on Conventional Arms Control. France proposed "establishing an international satellite imaging agency and an UN-run" facility for detecting and destroying weapons ([Jasani, 1982](#)).

"Western Europe and some others counties sponsored Resolution A/RES/36/99 to keep CD's priority on establishing an effective and verifiable agreement to prohibit anti-satellite systems" (Meyer, 2011, 2). In "February 2008, China and Russia submitted a draft treaty" aimed at preventing weapons from being placed in outer space, the PPWT, and later on, an amended version was submitted in 2014. Neither PAROS nor PPWT have been endorsed by the United States as of yet. The US has not only criticized the Sino-Russian PPWT but also has not engaged or provided an alternative to it. The CD's stalemate has delayed efforts to investigate the PPWT further, and "Russia and China are unwilling to take their draft to another forum. The US" has long been cold or hostile toward arms control measures at the CD level (Meyer, 2020).

The inability of the "UN General Assembly to reach a consensus on" PAROS-related resolutions were mostly due to persistent opposition from the United States and Israel. Their pattern of voting against significant issues is also visible at the 74th session of the First Committee on Outer Space Security ([UNODA, 2019](#)). Concerning TCBMs, the resolution received 166 affirmative votes, 2 negative votes (from Israel and the United States), and 5 abstentions ([UNODA, First committee approval, 2019](#)). Voting against the United Nations General Assembly resolution reflects a persistent resistance that has rendered three decades of efforts futile.

The international community appears to be trapped by the reality of power politics on these matters. The voluntary actions included procedures for information sharing, launch notification, and reciprocal visits to establishments involved with space. Despite its limited scope, the United States praised the study and said it supported the choice of TCBMs as the best method for furthering global cooperation in space

matters (Meyer, 2020). At present, Space TCBMs are on a voluntary basis. These procedures involve sharing information about satellites in orbit and notifying the public about the activities of launch vehicles. According to the UNIDIR, guidelines for conducting anti-satellite tests should include avoiding debris and ensuring that notification is carried out properly ([UNIDIR, 2018](#)).

There has not been the adoption of any system that is both particular and effective to prevent increased militarization in space as of yet. The five international treaties that make up international space law are not enough in terms of clarity and efficiency. The application of general international law to military applications of space is not fully understood or agreed upon. Numerous studies and ideas have been made under the CD platform in recognition of the importance of the challenges surrounding military space use.

The "use of outer space" for the military purpose was never rejected, allowing the states to undertake arms tests in space. As a result, it may be deduced that the blueprint of international politics is very much in play, and the future of militarization and weaponization is contingent on the will of the residual power of the contemporary global system. The March 2018 US National Space Strategy affirms that an attack or any adverse interference on the essential components of its space infrastructure that "directly affects US interests will be dealt with as a decisive reaction"n ([US National Space Strategy, 2018](#)). The bottom line is that the race in outer space is for the US military superiority over their adversaries, and deterrence appears to be their preferred strategy.

Anti-satellite Capabilities

To gain military dominance over other states, a state must be able to attribute an attack on its satellites to justify a punitive

response elsewhere if it is to be able to discourage other nations from attacking its satellites. Following the same philosophy, the early satellites launched during the Cold War were military and strategic in nature. States conduct kinetic ASAT tests to achieve military space objectives. In October 1959, the US conducted the first ASAT test. From a B-47 bomber, a missile was fired against the Explorer VI satellite ([Hays, 2011](#)). The tests were later continued by the US. In response, between 1968 and 1971, the Soviet Union conducted at least seven initial tests of a non-nuclear co-orbital ASAT. This testing, together with the growing importance and vulnerability of military space systems, led the US to develop a more advanced level of an ASAT system.

China and India were able to conduct ASAT tests because of the precedent set by the two major Cold War adversaries, as well as because of the legal lacunas in international space treaties. On January 11, 2017, China launched into space its ground-based missile while destroying its "Fengyun-1C weather satellite in LEO (Low Earth Orbit)", which generated massive debris in orbit ([Nair, 2007](#)). On March 27, 2019, India too destroyed its satellite with a missile ([Porras, 2019](#)). By doing this test, India became the fourth nation to develop and test anti-satellite technology.

The recent development on this issue is the UNGA Resolution 75/36 in 2020. According to it, the UN resolution encourages member states to study the various security and threats that affect space systems. They should also consider the activities and activities that can affect these systems. The Secretary-General should additionally seek the views of the members on these issues. In the form of a report about restrictions on kinetic ASAT testing ([UNGA, 2020](#)).

A full and thorough ban on space-based weapons, air-based, land-based and sea-based systems that aim to destroy space

objects has been demanded by Russia. Similar calls for a ban on land-, air-and sea-based weapons intended to destroy space objects have been made by China. Other countries, including "Canada, France, Germany, Australia, Norway, Italy, Japan, Luxembourg, the United Kingdom", Slovenia and the Netherlands, all agreed that kinetic ASAT tests should be avoided. The US defined Kinetic ASAT tests are a category of behaviour that should be taken into account when developing and enforcing norms, regulations, and principles. Sweden, Mexico, Brazil, and Switzerland declared their support for international discussions that result in kinetic ASAT testing restrictions that are enforceable by law. It is important to note that not a single state considered ASAT testing as an authorized action under international law. On the basis of this report, it was suggested to develop a kinetic ASAT Test Ban Treaty ([UNODA, 2021](#)). Despite these reasons for optimism, the dangers posed by ASAT testing are fast expanding, and the international community is unable to find a solution to these problems through negotiation.

Conclusion

The competitiveness of the Cold War era offers much to learn. Compared to the space race of the Cold War, space is now considerably more accessible and commercially profitable. Numerous technological advancements have been made in space, which has become indispensable to society and the global economy. Several states have successfully tested their anti-satellite weapon capabilities. Many more possess the capability to disrupt or harm space assets via cyber and electronic approaches. Till May 2020, five states had mentioned that they had devoted military units and upgraded their doctrines in preparation for

a potential space conflict ([Silverstein et al., 2022, 3](#)). Several states are concerned about defending their space-based assets from kinetic and non-kinetic space weapons.

In the 1960s, the major powers took the initial moves toward space arms control after identifying the hazards of placing nuclear weapons that would be replete with horrifying technological mishap potentials. In this regard, the limited test ban treaty (LTBT) of 1963 and the 1967 Outer Space Treaty has created a nuclear-free zone in space. The 1972 treaty between the Soviets and the US has prevented the development and testing of space-based missile defence systems.

Although the facts of the space environment have evolved greatly since the early 1980s, the major competing opinions held by States on how to address PAROS in UN forums have not changed substantially. Until there is advancement in the collaborative relationships between major competitors like China, USA and Russia, development on PAROS is likely to remain limited. All three are working on technology that will have an ever-growing impact on both international stability on Earth and the space domain. It appears improbable that the international community will come to an agreement to negotiate legally binding measures on PAROS, given the current geopolitical situation.

In the contemporary security situation, an increasing number of states have indicated plans to deploy a variety of counter space capabilities. Every country wants to increase its space capabilities and create deterrence. Anarchy will prevail if all spacefaring states take the same course. Cooperation on outer space security will benefit humanity and a sustainable outer

space environment. It appears that international law's shortcomings are exploited to achieve the national strategic agenda. States are pursuing minimal credible deterrence. If conventional weapons are thought to be the viable approach only, then it indicates that space will become more militarized. In this scenario, the possibility of mishaps and conflicts in space is high.

A bipolar competition's dynamics are no longer reflected in the way space is used today. The equilibrium established during Cold War is also no more valid. Both the number of satellites in orbit and the number of actors, governments and private companies that launch and operate spacecraft have considerably increased. Various spacefaring states have their own national and hegemonic interests. The involvement of Russia in Ukraine, China's concerns about Taiwan, and the posture taken by the United States toward both conflicts are the competing elements that make it difficult to create any kind of consensus regarding counter-space capabilities. China, Russia, and the US are testing counter-space capabilities and accusing each other of weaponizing space ([Meyer, 2020](#)).

Conflicts on Earth are detrimental to the future of PAROS-related agreements. Arms control and disarmament and issues of space environment conservation face a bleak future due to a lack of global initiatives and consensus. There is a requirement for new space arms control agreements and TCBMs. Instead of deterrence, principles based on morality and ethics should be observed in a cooperative spirit to bridge outer space treaties' gaps.

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