

Forum: The General Assembly 4
Issue: Addressing the militarization of outer space
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Introduction

The militarization of space has emerged as a complex and pressing issue, challenging the traditional understanding of outer space as a domain for peaceful exploration and scientific endeavors. In recent decades, an increasing number of nations have pursued the development and deployment of military capabilities in space, raising concerns about the potential weaponization of outer space. This transformation has prompted a reevaluation of international norms and agreements, necessitating a collective effort to address the challenges associated with the militarization of space. As nations invest in advanced technologies and strategic capabilities beyond Earth's atmosphere, the need for diplomatic initiatives, arms control measures, and collaborative frameworks becomes paramount to maintain the stability and sustainability of activities in outer space.

The history of space exploration is intertwined with Cold War rivalries, leading to treaties and agreements that aimed to prevent the weaponization of space. The Anti-Ballistic Missile Treaty (ABM) of 1972 between the United States and the Soviet Union and subsequent Strategic Arms Reduction Treaties (START) represented early attempts to regulate military activities in space. However, the contemporary landscape is marked by a more diverse array of space-faring nations, each pursuing its strategic interests, resulting in an evolving and intricate web of challenges. As the stakes in space rise, from satellite communications to navigation systems and reconnaissance capabilities, the international community faces the critical task of finding innovative and cooperative solutions to balance security imperatives with the preservation of outer space for peaceful purposes.

Definition of Key Terms

Militarization of Outer Space

The militarization of outer space refers to the process of deploying military assets, technologies, or activities in outer space, which may include the placement of weapons, surveillance systems, or other military capabilities in Earth's orbit or beyond. For instance, the development and deployment of satellite-based missile defense systems, such as the United State's Space-Based Infrared System (SBIRS), contribute to space militarization.

Outer Space Treaty

The Outer Space Treaty is an international treaty established in 1967 to regulate the use of outer space, emphasizing its peaceful exploration and prohibiting the placement of weapons of mass destruction in orbit. It

forms the basis for international space law, guiding nations in their pursuit of space activities for scientific, economic, and peaceful purposes.

Transparency and Confidence-Building Measures (TCBMs)

The TCBMs are diplomatic initiatives and agreements aimed at fostering trust among states by promoting transparency regarding military activities in outer space. The proposal for regular sharing of space-related information among nations, as part of the TCBMs, aims to reduce uncertainties and build mutual trust between nations.

Anti-Satellite (ASAT) Weapons

ASAT Weapons refer to military tools designed to target and destroy satellites in orbit, posing risks to space assets and the overall stability of outer space. China's 2007 test of an anti-satellite missile demonstrated the potential capability of disrupting or destroying critical satellite systems in low Earth orbit.

International Cooperation in Space Exploration

International cooperation in space exploration, in this case, indicates collaborative efforts among nations to jointly undertake space missions, research, or technological development for peaceful purposes. The joint collaboration between NASA and the European Space Agency (ESA) on the James Webb Space Telescope exemplifies successful international cooperation in advancing space exploration.

Space Security

Space security means the condition in which outer space activities are conducted to minimize risks of conflict, accidental collisions, or harm to space assets, ensuring the sustainable and secure use of space. Space security initiatives, such as the Code of Conduct for Outer Space Activities, seek to establish guidelines to prevent the weaponization of outer space and enhance overall space stability.

Background

Historical Background

The militarization of space is not new; the first event that contributed to space militarization can be traced all the way back to the time period when the first military communications satellite was placed in orbit by the Soviet Union and the United States (US) in the 1960s. Since then, there has been considerable tension between the two nations. Therefore, in order to thoroughly understand this issue, it is extremely crucial to first take a look at its historical background.

The Cold War

The Cold War was an intangible geopolitical and ideological conflict between the US and its NATO allies on one side, and the Soviet Union and its allies in Eastern Europe on the other side. It gradually developed after the surrender of Germany in World War II (WWII) and lasted for around 44 years – from 1947 to 1991. Following WWII, the Soviet Union had implemented left-wing communist governments in eastern European countries that had been liberated by the Red Army. As the Soviet Union's political influence in Eastern Europe had been increasing, the US and Great Britain feared for Soviet Union's domination of the region and the potential threat

those communist countries would pose to the democracies of Western Europe and the rest of the world. Despite such concern, the Soviet Union continued to maintain its control over those countries with the intention of spreading the ideology of communism to as many countries as possible. This had engendered great tensions between the two parties, resulting in this invisible Cold War.

These tensions were not only limited to ground-based conflicts – they further extended to space exploration as WWII suggested to the world that rocket technology could propel modern warfare, and as a result, the US and the Soviet Union raced to acquire the more superior rocket technology. Such a race for space development was, in fact, a critical aspect of the Cold War competition between the United States and the Soviet Union for technological, scientific, and ideological superiority. It lasted from the late 1950s until the 1960s with significant milestones achieved by both superpowers. On October 4, 1957, the Soviet Union launched Sputnik 1, the world's first artificial satellite. Through this, the Soviets demonstrated their technological prowess, marking the beginning of the space race and heightening Cold War tensions. This was followed by their success in sending the first human to orbit the Earth in 1961, intensifying the space competition. Then, the US responded with the Mercury and Gemini programs, aiming to develop the necessary technologies for manned spaceflight. The US has also successfully sent the first human to the moon and brought him back to Earth in its Apollo Moon Mission.

This intense race for space development showcased each nation's capabilities and had significant political, technological, and cultural implications to the world. The Cold War between these two nations has paved the way for further development of space, leading to technological advancements with applications beyond space missions.

Negative perspectives of space militarization

Space militarization has raised significant concerns, with critics highlighting several negative consequences that could have profound implications on global security, diplomacy, and the environment. One major concern revolves around the heightened risk of an arms race and the potential for an escalation of conflicts in space. As the militarization of space progresses, the development and deployment of advanced military technologies could lead to a competitive race for dominance, repeating the Cold War scenarios. This competitive environment may not only strain international relations but also increase the likelihood of miscalculations and conflicts. The United Nations Office for Disarmament Affairs has extensively explored these concerns in its report titled "The Militarization of Space and the Prevention of an Arms Race".

Another concern is the risk of space becoming a battleground, leading to increased security concerns and the potential weaponization of the orbital domain. The deployment of space-based weapons and anti-satellite technologies could raise the stakes for nations involved in geopolitical rivalries. This not only threatens the sustainability of peaceful space exploration but also poses the risk of unintended consequences, such as collisions between satellites or the creation of space debris.

Furthermore, this issue can even extend to environmental concerns, particularly the generation of space debris. Military activities, including satellite launches and anti-satellite tests, contribute to the accumulation of debris in Earth's orbit. This debris poses a threat to both manned and unmanned spacecraft, increasing the risk of collisions and creating challenges for the long-term sustainability of space activities. Debris from such destruction

of satellites, owned by multiple states and corporations, could clog the orbit and make deploying new satellites challenging and even impossible, causing disruption to our current way of life to merely militarize space. Even more, if an enemy state, either accidentally or intentionally, destroys a country's satellites, the country's military capabilities and defensibility will become significantly limited as nations also use satellites for military purposes such as communications, navigation, and reconnaissance. This will put the country at risk of attacks and making it unable to coordinate its military forces on the ground. This will further the tension and extends it to the ground-based conflicts between nations, possibly resulting in intangible or tangible wars.



Figure 1: A space satellite that crashed into front yard in Michigan (ABC News)

Positive perspectives of space militarization

Despite the potential negative repercussions of space militarization, militarizing space has been a contentious topic with both proponents and opponents. It is thus crucial to consider both sides and determine what would be the best solutions to explore outer space and benefit the current world but to a certain degree so that it does not result in any irreparable outcomes.

One potential benefit is the enhancement of national security. By establishing a military presence in space, countries can better protect their assets, such as communication satellites and reconnaissance systems, which are vital for both military operations and civilian infrastructure. According to a report by the Center for Strategic and International Studies (CSIS), maintaining a military presence in space can deter potential adversaries from threatening a nation's space-based capabilities, thereby contributing to overall national security.

Another advantage of space militarization is the potential for improved space situational awareness (SSA). With the increasing congestion of Earth's orbits due to a growing number of satellites and space debris, the ability to monitor and track objects in space becomes crucial. A militarized space force could contribute to SSA by monitoring potential threats, identifying space debris, and ensuring the safe operation of satellites. This could prevent accidental collisions and reduce the risk of damage to valuable space assets. The United Space Command, established to address such concerns, emphasizes the importance of SSA in its mission to protect and defend US and allied interests in space.

Additionally, militarizing space may spur technological advancements with potential civilian applications. History has shown that military investments often lead to the development of cutting-edge technologies that eventually find applications in various sectors. The space race during the Cold War, for instance, resulted in numerous technological innovations with broader implications beyond military purposes. A militarized space program could similarly drive advancements in propulsion systems, communication technologies, and materials science, potentially benefiting both military and civilian space endeavors.

Prevention of an Arms Race in Outer Space

Preventing an arms race in outer space while fostering the peaceful development of space is a critical challenge that requires international cooperation and adherence to well-established principles. To safeguard outer space from becoming an arena for military competition, a multilateral approach is essential. The international community must work collaboratively to establish and reinforce legal frameworks that explicitly prohibit the deployment of weapons in outer space. The Outer Space Treaty, which entered into force in 1967, is a cornerstone of international space law and outlines fundamental principles, including the prohibition of placing nuclear weapons or any other weapons of mass destruction in orbit around Earth. To further strengthen these legal provisions, ongoing diplomatic efforts should focus on creating additional treaties or protocols that specifically address emerging challenges. Updating and expanding existing agreements can help ensure that new technologies, such as anti-satellite weapons or space-based defense systems, are adequately addressed within the international legal framework.

Transparency and confidence-building measures are integral components of preventing an arms race in outer space as well. States should be encouraged to share information about their space activities, capabilities, and intentions to build trust among nations. Establishing a system for notifications of space activities, similar to the one outlined in the Transparency and Confidence-Building Measures (TCBMs) proposed by the UNODA, can contribute to greater openness and reduce the risk of misunderstandings.

In short, international cooperation in space exploration and development is crucial for promoting peaceful uses of outer space. Initiatives such as joint space missions, technology-sharing agreements, and collaborative space research can foster a sense of unity and common purpose. Organizations like the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) can also serve as platforms for facilitating cooperation and dialogue among nations. By upholding the principles of existing treaties and continually adapting to technological advancements, the international community can create a secure and cooperative environment for the future of space activities.

Major Parties Involved

United States of America (USA)

The USA has been at the forefront of space militarization, developing advanced space capabilities for both defensive and offensive purposes. It has showcased its capabilities through initiatives such as the establishment of

the US Space Force in 2019, which reflects the increasing emphasis on space as a warfighting domain. The nation has achieved significant milestones, including the development of advanced satellite-based missile defense systems like the Space-Based Infrared System (SBIRS) and the successful deployment of military communication and surveillance satellites. These achievements underscore the nation’s commitment to ensuring its dominance in space and its preparedness to protect its space assets from potential threats, sending a clear message about its intent to maintain a leading role in space security.

China

China has actively pursued space militarization with notable achievements, such as the 2007 test of an anti-satellite missile. This demonstration highlighted China’s capacity to disrupt or destroy satellites in low Earth orbit, showing its emerging counter-space capabilities. China’s advancements in space technology, including the development of its own navigation and communication satellites, signify its growing influence in the militarization of space, and its ambition to assert itself as a space power.

Russia

Russia has a storied history of space militarization, with recent achievements including the development of anti-satellite systems and counter-space capabilities. Notable accomplishments involve the testing of direct-ascent anti-satellite missiles and the deployment of satellites equipped with technologies for rendezvous and proximity operations. These achievements demonstrate Russia’s commitment to enhancing its space-based military capabilities and maintaining a strategic edge in space operations, contributing to the evolving landscape of space security.

European Space Agency (ESA)

The ESA has primarily focused on peaceful space exploration but has made advancements in technologies with dual-use applications. Achievements include collaborative projects with member states, such as the development of the Galileo satellite navigation system. While primarily civilian in nature, these achievements highlight the ESA’s ability to contribute to space-based capabilities that can have implications for both civilian and military purposes, demonstrating Europe’s growing position in the broader space domain.

India

India has demonstrated its space militarization ambitions through achievements such as the successful test of an anti-satellite weapon under Mission Shakti 2019. This accomplishment showed their capability to target and destroy satellites in low Earth orbit. India’s pursuit of such technologies highlights its intent to safeguard its space assets and assert itself as a regional space power with strategic capabilities.

Timeline of Events

Date	Description of event
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October 4, 1957	Sputnik 1 Launch: The Soviet Union launched the world’s first artificial satellite, Sputnik 1, marking the beginning of the space age and triggering concerns about space militarization.
January 27, 1967	Outer Space Treaty Signing: The Outer Space Treaty was signed by major space-faring nations, including the US and the Soviet Union, establishing principles for the peaceful use of outer space and prohibiting the placement of weapons of mass destruction in orbit.
March 23, 1983	Strategic Defense Initiative (SDI) Announcement: President Ronald Reagan announced the SDI, a missile defense program that includes space-based components, raising international concerns about the weaponization of space.
January 11, 2007	Chinese Anti-Satellite Test: China conducted an anti-satellite missile test, destroying one of its defunct weather satellites. The test generated debris and demonstrated future potential for space militarization and weaponization, heightening global concerns.
December 20, 2019	US Space Force Establishment: The US formally established the US Space Force as a new branch of the military, emphasizing the increasing importance of space in national security.
March 27, 2019	India’s Mission Shakti: India successfully tested an anti-satellite missile under Mission Shakti, demonstrating its capability to target and destroy satellites in low Earth orbit.
May 15, 2020	Artemis Accords Introduction: The US introduced the Artemis Accords, a set of principles for international cooperation in lunar exploration. While focused on peaceful collaboration, the accords also highlight concerns about the security of space assets.
June 2-3, 2022	UNODA Space Security Conference: The UNODA hosted a conference on space security, bringing together nations to discuss challenges and solutions in preventing the militarization of outer space.

Previous Attempts to Resolve the Issue

USA

The US has engaged in various attempts to address the militarization of space, with a notable instance being the Strategic Arms Limitation Talks (SALT) during the Cold War era. The SALT II treaty signed in 1979, aimed to limit the development of space-based weapons, including anti-satellite systems and ballistic missile defense technologies, between the US and the Soviet Union. Although the treaty was not ratified, it demonstrated early recognition of the need to prevent the weaponization of space and set the stage for future international discussions on space security.

Soviet Union / Russia

The Soviet Union and later Russia were key players in arms control agreements addressing the militarization of space. The Anti-Ballistic Missile Treaty (ABM Treaty) of 1972 was a significant effort to prevent the development of space-based missile defense systems, acknowledging the potential destabilizing impact of such technologies. While the ABM Treaty was abandoned in 2002, it represented an important historical step in regulating space activities and limiting the deployment of certain space-based weapons.

United Nations (UN)

The UN has been at the forefront of global efforts to address the militarization of space. The Prevention of an Arms Race in Outer Space (PAROS) has been a recurring topic in the UN's Conference on Disarmament (CD). Resolutions such as UN General Assembly Resolution 75/36 in 2020 reiterated the importance of PAROS, calling for the prevention of an arms race in outer space and the peaceful use of space. They highlight the ongoing commitment of the international community to finding diplomatic and legal solutions to space militarization.

European Union (EU)

The EU has actively pursued initiatives to prevent the militarization of space. Emphasizing responsible behavior in space, the EU has supported measures for space situational awareness and debris mitigation. As outlined in the European Space Policy, the EU seeks to foster international cooperation on space security and sustainability, highlighting the peaceful use of outer space and the prevention of an arms race.

China

China has been involved in diplomatic efforts to address this issue, participating in international forums such as the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS). In 2014, China and Russia collaboratively submitted a draft treaty on the prevention of the placement of weapons in outer space to the Conference on Disarmament, reflecting their shared concerns about space security.

Possible Solutions

Below are merely suggestions to provide delegates with a starting point for creative yet feasible solutions. Please try to come up with your own original solutions and have these suggestions only as one of your references.

Transparency and Sharing Information

Transparency is a key to using outer space peacefully. Nations can further develop TCBMs and adapt them to current situations and technological developments, maintaining mutual trust between nations. Furthermore, it will be also helpful if nations share expertise, intelligence, and best practices in space security. This can be done by discussing in UN official conferences, submitting reports on such areas, or establishing a website or system that

enables nations to share such information whenever necessary. This will further prevent conflicts between nations and foster the development of space with less tension.

Space Ethics

To provide a common ground for space-faring nations to uphold ethical standards in their exploration and utilization of space, nations should outline shared values and ethical considerations for space activities. They can collaboratively come up with a set of principles that prioritize the peaceful use of outer space, environmental control, the protection of celestial bodies, and so on. Nations can also work together to develop mechanisms for addressing misunderstandings, de-escalating tensions between nations, and promoting peaceful communications in any events of disputes. These will promote a more peaceful utilization of space and thus possibly prevent an arms race and any armed forces in outer space.

Coordinated Space Debris Mitigation

Space debris formed from satellites and collisions between them is one of the pressing issues in militarizing outer space. Therefore, it is important to have nations collaborate, engage in international efforts to address the growing issue of space debris and propose feasible solutions to mitigate space debris. This can be done by emphasizing research and development of technologies to remove existing debris and encourage sustainable spacecraft design practices.

Education and Raising Awareness

This topic may be unfamiliar to people as this issue is not often addressed in everyday life. To raise awareness regarding this issue, education is crucial. Nations can collaborate to develop standardized educational programs that can increase public understanding of space activities, their implications, and the importance of peaceful cooperation. When doing so, it is important to educate with the same content from a neutral point of view, as different nations have different perspectives and goals on this issue. This will allow people to have an unbiased understanding and develop their own views.

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