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Issue: Fostering international cooperation in the peaceful uses of outer

space

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Introduction

The General Assembly (GA) established the Committee on the Peaceful Uses of Outer Space (COPUOS) in 1959 to oversee the exploration and use of space for the benefit of all humanity: peace, security, and development. COPUOS was responsible for examining international cooperation in peaceful uses of space, researching space-related activities that the UN could undertake, encouraging space research programs, and researching legal issues emerging from space exploration. Peaceful use of outer space is extremely important and crucial in accordance with the charter of the UN and the treaty of principles governing the activities of states. Fostering international cooperation in outer space is essential not only for the safety of citizens in outer space, but also for efficiency, and political sustainability. If international cooperation in spaceflight is effective, and is working with countries, workforce stability can continue to accrue, making approaching space exploration as a mutually beneficial endeavor. Space exploration is essentially important, as we can use space exploration to validate or disprove scientific theories that have been created on Earth. Understanding gravity, the magnetosphere, the atmosphere, fluid dynamics, and the geological evolution of other planets, for example, has come through studying the solar system. Since COPUOS's inception, the Committee has looked into issues such as the economic benefits of space activities, the definition and delimitation of outer space, and the use of geostationary orbit, as well as the implications of remote sensing, space sciences, space-based communications, navigation, and meteorological systems, as well as the use of nuclear power sources in space, space debris, and spin-off benefits of space technology. COSPAR and IAF convened a symposium in 1996 to complement discussions on the topic of "Utilization of micro- and small satellites for the extension of low-cost space operations, taking particular consideration of the needs of poor nations." Not only this, a prevention of arms race in outer space is also crucially important towards the safety of countries' citizens, and wellbeing in general. The rapid growth and diversification of space applications raises the issue of space activity constraints. The use of outer space "for peaceful purposes" is the highest limitation imposed by space law. Whatever semantic approach one takes to the

notion of "peaceful purposes" in the language of the Outer Space Treaty, the underlying substantive legal normativity is what matters. The applicable international legal standards confirm that the ultimate restriction is the UN Charter's prohibition on the use of force in Article 2 (4), which applies to outer space together with the UN Charter's and general international law's exceptions. The issue of fostering international cooperation in peaceful uses of outer space, is essential towards the civilization of our world in later years to come.

Definition of Key Terms

Peaceful use of outer space

Peaceful use of outer space is typically used to describe countries having peaceful relations with each other in use of outer space. This is essentially important to prevent the future possibility of a big arms race in outer space, potentially leading to the danger on earth. Demilitarization in space is so essential as that is the only way we can ensure peaceful use in outer-space. International cooperation was critical to ensuring that the benefits of space technology reached all countries, particularly those in the developing world, he said. The United Nations, through its Committee on the Peaceful Uses of Outer Space, should continue to play a key role in ensuring that governments collaborate to deliver the benefits of space exploration to people all over the world.¹

Demilitarization in space

Demilitarization in space, stands for the to rid of military arms and weapons in space.

Demilitarization in space, helps lessen and reduce potential arms race. The demilitarization of space in part leads to the launch of reconnaissance, secure telecommunications, space surveillance, and eavesdropping satellites into orbit. These technologies assist the policy of the countries who own them and give logistical support to their troops deployed in combat zones. While the shift toward militarization and militaries research is a significant step forward in anthropology, the logical next step is to draw on and expand research on militarization and militaries, as well as to engage ethnographically with demilitarization and the ways in which states and groups come to terms with the end of militarization programs and the lingering aftereffects of militarization. A review of contemporary anthropological work on militarization leads to a discussion about demilitarization, and how people deal with the long-term implications and consequences of militarization, war, and violence. The 1967 Outer Space Treaty outlaws

https://www.unoosa.org/oosa/en/ourwork/copuos/index.html

the deployment of weapons of mass destruction (WMD) in space, as well as military activity on celestial bodies, and lays forth legally enforceable guidelines for the peaceful exploration and use of space.

Arms race in outer space

The Prevention of an Arms Race in Outer Space document is a United Nations resolution from 1981 that underlines the 1967 Outer Space Treaty's essential principles and pushes for a ban on space weaponization. The Conference on Disarmament's Ad Hoc PAROS Committee (Cttee) is a subsidiary body. Arms race in outer space is not only extremely dangerous, it will also destroy stability and balance within space.² Since the first communication satellites were launched, space has been militarized. The Global Positioning System (GPS) is used by militaries all around the world for command and control, communication, monitoring, early warning, and navigation. As a result, "peaceful uses" of outer space include military uses, even if they aren't exactly peaceful—for example, using satellites to direct bombing raids or orchestrating a "prompt global strike" capability, which is defined as "the ability to control any situation or defeat any adversary across the range of military operations." Several agreements were signed in the 1960s and 1970s to prevent the weaponization of space. The Partial Test Ban Treaty, formally titled the Treaty Banning Nuclear Weapon Tests in the Atmosphere, Outer Space, and Under Water (1963), the Outer Space Treaty, formally titled the Treaty on the Principles Governing States' Activities in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (1963), and the Outer Space Treaty, formally titled the Treaty on the Principles Governing States' Activities in the (1967).³ The CD formed an ad hoc committee in 1985 to identify and investigate concerns related to PAROS, such as satellite legal protection, nuclear power systems in space, and various confidence-building measures. The US was adamant about not granting the group a negotiating mandate, preferring instead to hold bilateral discussions with the Soviet Union. Until 1994, the committee met once a year. Due to the United States' objections, no further committee meetings were held. "We have not identified any realistic outer space arms control measures that can be dealt with within a multilateral environment," the US claimed in 1990. The US has continuously refused to negotiate PAROS in the CD because of its vast missile defense program and technical advantages in possible space warfare.

² https://www.reachingcriticalwill.org/resources/fact-sheets/critical-issues/5448-outer-space

https://www.nti.org/education-center/treaties-and-regimes/proposed-prevention-arms-race-space-paros-treaty/

Space Weaponization

• The deployment of space-based weapons with destructive capabilities in orbit is referred to as spatial weaponization. Space weapons include ground-based systems that are developed or utilized for space-based strikes, albeit they are not strictly part of the weaponization of outer space because they are not deployed in orbit. The deployment of space-based weapons with destructive capabilities in orbit is referred to as spatial weaponization. Ground-based systems that are planned or utilized for space-based strikes are also considered space weapons, despite the fact that they are not deployed in orbit and hence are not technically part of the weaponization of outer space.

Satellites

• Satellites not only deliver television signals to homes, but they also serve as the backbone for cable and network television. These satellites transmit signals from a central station that develops programs to smaller stations that transmit the signals through cables or the airwaves locally. Satellites are an artificial body that is placed in orbit around the earth, moon, or another planet to collect data or communicate. Mercury and Venus are the only inner planets without natural satellites, while Earth has one big natural satellite, the Moon, and Mars has two tiny natural satellites, Phobos and Deimos. Since the first communication satellites were launched, space has been militarized. The Global Positioning System (GPS) is used by militaries all around the world for command and control, communication, monitoring, early warning, and navigation.

History

The United States released its first National Space Strategy in 2018, acknowledging that its opponents have transformed space into a battlefield[1]. The space race between the United States and the Soviet Union began with the Sputnik crisis in October 1957[2], which sparked the first military use of space. A growing number of governments are researching military uses of space in recent years. In

https://www.spf.org/iina/en/articles/nagashima_02.html#:~:text=In%202018%2C%20the%20United%20States,U.S.%20and%20the%20Soviet%20Union.

 $[\]frac{\text{https://www.reachingcriticalwill.org/resources/fact-sheets/critical-issues/5448-outer-space\#:} \sim :text=M ilitarization%20of%20outer%20space%3A%20Space, with%20the%20Global%20Positioning%20System.}$

March 2019, India conducted an anti-satellite weapons test, while in April, Iran launched its first military satellite. The Chinese PLA developed the Strategic Support Force in 2015 as part of its reform, which is responsible for space, cyber, and the electromagnetic spectrum. In January 2007, China conducted an anti-satellite annihilation test utilizing anti-satellite weaponry (ASAT), kicking off the post-Cold War era's development of space as a warfighting domain. As a response to a predicted scenario in the Taiwan Strait, China needed to develop asymmetric capabilities in space and cyberspace. This test resulted in a considerable amount of space debris, and it drew widespread international condemnation[4]. Despite the fact that space was used militarily for decades during the Cold War, both the US and the Soviet Union avoided such experiments since indiscriminate physical attacks may have a severe impact on all space operations. The first earth satellite experiments were conducted and done under the international geophysical year. However, only the booster rockets made it possible for the soviet union to even develop the intercontinental ballistic missile across vast distances on earth. The United States spends around 7^{1/2} percent of the national budget on space exploration, and scientific efforts towards space. In 1961, president kennedy defined the goal of the US, as "landing a man on the moon and returning him safely to earth". However with this being said, we also need to talk about the depth of understanding the progress international cooperation has on outer space. International cooperation is essential for political stability, and for the safety of citizens in different countries.



Figure 1: Picture of militarization in space

Key Issues

One of the alarming, and key issues when talking about international cooperation to ensure peaceful uses of outer space, is the militarization and arms race currently in outer space. In the Outer Space treaty, the treaty talks about the legal principles of governing the activities of states in exploration, and the use of outer space. This has been adopted by the General assembly since 1963, but added a few new provisions in the past few years. The biggest and more prevalent countries involved within this treaty, are the three depository governments [the russian federation, the UK, and the USA. The outer

space treaty provides the basic framework on international space law, including the following principles: Outer space exploration and usage shall be carried out for the benefit and in the interests of all countries, and shall be the domain of all mankind; All States shall have unrestricted access to and usage of outer space; States shall not place nuclear weapons or other weapons of mass destruction in orbit or on celestial bodies, or station them in outer space in any other way; Outer space is not subject to national appropriation by claim of sovereignty, use or occupation, or any other means; Outer space is not subject to national appropriation by claim of sovereignty, use or occupation, or any other means; Outer space is not subject to national appropriation by claim of sovereignty, use or occupation, or any other means; Outer space is not subject to country ruling.

Major Parties Involved and Their Views

United States

The United States in 1967, signed the Outer Space Treaty, which stated and governed the activities and principles of space exploration, and uses of outer space. Some of the most well-known organizations and agencies in the realm of space research and travel are based in the United States of America. Government institutions like the National Aeronautics and Space Administration (NASA) and commercial enterprises like SpaceX are all involved in space exploration. The list of public and private entities includes Lockheed Martin, Boeing, and Northrop Grumman. The number of people dedicated to spaceflight who call the United States home appears to be unlimited.

China

China urges all nations to work together to create a global community with a shared future and to engage in in-depth exchanges and cooperation in space on the basis of equality, mutual benefit, peaceful utilization, and inclusive growth. China fundamentally regards space exploration as part of its broader national development, according to its white papers on space. ⁶China is proud of its indigenous space technology development, which includes the development of its human space program, lunar probe, and space industry. China has been operating the first robotic spacecraft on the far side of the moon and is developing its own lunar lander for human expeditions. NASA's Artemis mission, which aims to return men to the lunar surface, has already been postponed for at least a year, until 2025.⁷ The

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 $[\]frac{\text{http://english.www.gov.cn/archive/whitepaper/202201/28/content_WS61f35b3dc6d09c94e48a467a.ht}{\text{ml\#:}\sim:\text{text=China}\%20\text{calls}\%20\text{on}\%20\text{all}\%20\text{countries,peaceful}\%20\text{utilization}\%2C\%20\text{and}\%20\text{inclusive}\%20\text{development.}}$

⁷ https://www.politico.com/news/2021/12/31/2022-space-race-china-us-526271

Chinese government has the view that independent innovation and international cooperation needs to be combined in order to enhance the ability to work peacefully in the uses of outer space. ⁸ The Chinese government also attaches great importance to their execution of responsibilities, and says they will implement as many work plans, committing themselves to the continued efforts of space exploration.

Turkey

Turkey gives and respects the importance of international cooperation in space research. They have signed the "agreement between the government of turkey and the european space agency concerning cooperation in the exploration and the use of outer space for peaceful purposes", which entered into play and force in 2006. ⁹ Turkey's Space Agency's general manager has stated that the country will launch its space mission with the help of other countries because it is not a partner country to the International Space Station (ISS).If we do not travel into space, we would be bound to be poor," Serdar Hüseyin Yldrm remarked on Feb. 15, adding that the country will not be able to accomplish it on its own.¹⁰

Saudi Arabia:

Saudi Arabia stressed that the country is exerting great efforts into transferring and localizing space sciences and technology in its belief that international cooperation in the field of science activities, is crucially important means of peaceful exploration of outer space. Saudi Arabia, is committed to utilizing outer space for peaceful purposes only, and any attempt to place armaments in space, would cause serious threat and harm to the world. ¹¹

Russia:

The Russian Space Agency policy towards fostering international cooperation in outer space, is that the body of federal executive power is responsible for carrying out space activity for scientific and national economic purposes under the jurisdiction of the Russian federation in accordance with the policy in

https://www.fmprc.gov.cn/ce/ceun/eng/zghlhg/flsw/t349640.htm#:~:text=The%20Chinese%20government%20is%20of,peaceful%20uses%20of%20outer%20space.

⁹ http://www.unoosa.org/pdf/pres/copuos2009/tech-42.pdf

https://www.hurriyetdailynews.com/turkey-will-cooperate-with-other-countries-on-space-mission-16 2462

¹¹ https://www.arabnews.com/node/1576366/saudi-arabia

space for Russia. NASA continues to work to fly Russian cosmonauts on American spacecrafts, and American astronauts also fly on the Russian Soyuz spacecraft.¹²

Canada:

Canada's view on collaboration in space is very vital, as with the demands and challenges of space, space players collaboration is the essence to achieve success. Canada helped capture and deploy satellites, dock space shuttles, and even built the international space station [aka the ISS]. ¹³ One of the most vital pieces of equipment on board the international space station, is a robotic arm from Canada also known as the Canadarm2, which played an essential role in maintaining and building the ISS. Each year, Canada spends around 16 million on space exploration missions, technology, which is much less than comparable nations as a fraction of GDP.

Timeline of Relevant Resolutions, Treaties and Events

There were many relevant resolutions, and treaties to solve issues on international cooperation for outer space use, within the UN, and within countries. Below are a bunch of resolutions, and dates in chronological order.

Date	Description of Event
	The "Outer Space Treaty"
1967	This treaty was adopted by the general assembly in its resolution 222 (XXI), and was opened up for signature on January 27th of 1967, which entered into force on October 10th 1967.
	"The Rescue Agreement"
	The rescue agreement was considered and also negotiated by the legal subcommittee from 1962 to 1972. It was ao consensus agreement in which reached the general assembly in 1967. The agreement elaborated on elements of article 5 and 8 on the outer space treaty, providing and stating that the states shall take all the possible steps in order to rescue and assist astronauts in distress, as well as prompt, return them to the launching state
1968	The Rescue agreement, was an agreement on the rescue of astronauts, and the return of astronauts, as well as the return of objects launched into outer space

¹² https://www.washingtonpost.com/technology/2022/03/01/space-station-nasa-russia/

¹³ https://www.cbc.ca/kidscbc2/the-feed/five-things-canada-has-contributed-to-space-exploration

	It was originally adopted by the general assembly in its resolution 2345 (XXII), and was opened for signature on April 22 1968. They also entered into force on the 3rd of December 1968. ¹⁴
	The "Liability convention"
1972	The liability convention was considered and negotiated by the legal subcommittee, and was reached in the general assembly in 1971. This clause resolution elaborated on article 7 of the outer space treaty, and provided that a launching state shall be absolutely liable to pay all the compensation and damages caused by its space objects on the surface of the earth, and is also liable for damage due to its faults in space
	The "Broadcasting principles"
1982	The broadcasting principle states and stresses that there are main principles for governing the use of artificial earth satellites for international direct television broadcasting. It asks for international cooperation in fields of direct television broadcasting by satellite, and claims that it should be based upon and encouraged by international cooperation.
1986	The "Remote Sensing Principles" states that remote sensing activities shall be conducted in accordance with the international law, including the charter of the UN, and other relevant instruments of the international telecommunication union.

Relevant UN Treaties and Events

Space laws and principles: This treaty presents itself with the principles for countries ons space exploration and operation. These activities are for the benefit for all the nations, and it states that any country is free to explore orbit and beyond. There is no claim for sovereignty in space; and no country or nation can claim space as their own, the moon or any other body in outer space. ¹⁶

Moon agreement: From 1972 through 1979, the Legal Subcommittee studied and expounded on the Moon Agreement. The General Assembly passed Resolution 34/68 in 1979, approving the Agreement. The fifth country, Austria, did not ratify the Agreement until June 1984, allowing it to enter into force in July 1984. Many of the provisions of the Outer Space Treaty as they apply to the Moon and other celestial bodies are reaffirmed and expanded in the Agreement, including that those bodies should

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 $\frac{https://www.spacefoundation.org/space_brief/international-space-law/\#:\sim:text=The\%20treaty\%20presents\%20principles\%20for,\\Moon\%20or\%20any\%20other\%20body.$

¹⁴ https://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties.html

¹⁵ https://www.unoosa.org/oosa/en/ourwork/spacelaw/principles/dbs-principles.html

be used exclusively for peaceful purposes, that their environments should not be disrupted, and that the United Nations should be informed of the location and purpose of any station established on those bodies. In addition, the agreement provides that the Moon, and its natural resources are the common heritage of mankind, and that there should be no international regime to establish or govern the exploitation of space resources.

Evaluation of Previous Attempts to Resolve the Issue

The Outer Space Treaty, provides a firm framework for the governing activities of state in the exploration, and prohibits military activities on celestial bodies, and includes other details legally binding rules that govern theo peaceful exploration and the uses of space. So far the outer space treaty is still in effect, and remains the "constitution" of outer space, which has been signed and made official by 105 countries in the world. It has been working pretty well, but recently the challenges have increasingly started to crop up.

Although there are many points to consider within the treaty the most important part of it, is that outer space is supposed to be used for "peaceful purposes", and that weapons of mass destruction cannot be used in space; however a group of eight countries still tried to claim ownership of a segment of an orbit, in which the space situated above their land. They claimed that this space didn't fall under the definition and category of outer space by the outer space treaty, and was therefore a "natural resource". In 2007, China was thought to have violated the treaty, when it shot down one of its own weather satellites with a "ground based medium- range ballistic missile" However, China acceded to the Outer Space Treaty on December 30th 1983. ¹⁸ China's actions were seen as "aggressive" by Japan, but since the missiles did not come under the definition of "weapons of mass destruction", it was found that this did not violate the treaty.

However, other than that; the Outer Space Treaty has been remarkably successful. Over the 50 years of its existence, the treaty has never actually been violated. Although there have been many practical challenges, the treaty has successfully kept us safe and protected for a long time. Many treaties, and resolutions have also managed to protect a lot of us from militarization in space. One treaty and resolution that was proposed, was the remote sensing principles. The basic principles of remote sensing, is that they would record the electromagnetic energy reflected or emitted by the earth's surface. The

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 $[\]frac{https://theconversation.com/the-outer-space-treaty-has-been-remarkably-successful-but-is-it-fit-for-the-modern-age-71381$

¹⁸ https://journals.openedition.org/chinaperspectives/577

"remote sensing activities", means that the use of remote sensing space systems, and data collection, would have to be conducted in accordance with international law.

Possible Solutions

- 1. Have countries be more transparent about their space exploration motives, incentivize countries for more international cooperation in space exploration
 - Pros: International cooperation is essential for countries in order to help everyone with the exploration of space. International cooperation can help those wanting to develop their economy, or rise up on top politically to understand situations, and what to do; and can also help those more economically developed countries get more assistance and help they need to explore our future. International cooperation can also significantly reduce a country's spending costs, and spread it equally amongst all nations that are willing to cooperate.
 - Cons: Although, there are plenty of benefits towards international cooperation, and having countries share and be more transparent about their internal motives; there are also plenty of negative side effects that come with it. First, being that, countries that are more economically developed, and more politically powerful may not want to help those that are in the bottom with their information. Having countries know about each other's plans, can also potentially lead to an arms race in space, as everyone wants to be prepared to attack, and protect themselves.
- 2. Have consequences or punishments to those that break the agreements of the Outer Space Treaty
 - Pros: In the 50 years that the agreement has been successful, there have been specific clauses stating what should or should not be done; however there has been no regulation or law re-iterating, and enforcing it. If that agreement is broken, there should be financial or economic consequences for the nation that breaks it. Obviously, this can depend on the severity of breaking the agreement; but consequences and punishments are essential to keep our world, and to keep law in order. If there are no consequences, or no fear of breaking it, then our world peace could be in serious jeopardy and danger.
 - Cons: The Outer Space treaty is already a legally binding agreement that countries have
 to sign. On top of the legal obligations countries have to make when signing this
 agreement, the agreement and treaty regulates a lot of potential economic gain and
 incentivization for countries that are weaker that want to rise on top. Not only this,
 economically or financially sanctioning one's country, can lead to a lot of chaos within; and
 the jeopardization of world peace in general.

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Appendix or Appendices

I. Journal article about space and international cooperation:

https://journals.openedition.org/chinaperspectives/577