SPACE WAR

United Nations General Assembly
GrunnMUN 2019

Chairs:
Fred Hilton
Romée Lutterop

Dear delegates,

On behalf of the European International Model United Nations, we would like to welcome you to the General Assembly. We look forward to be your chairs and making your Model United Nations experience worth remembering!

Participating as a delegate in GrunnMUN will be a challenging, but will definitely be a rewarding experience for you. We are certain that this Council will present opportunities for each and every delegate to learn, excel, and broaden their horizons. In and out of session, you will be pushed to consider innovative solutions to modern issues facing the international community. Outside of the committee room, you will have the opportunity to make friends.

With the challenges concerning human rights growing increasingly pressing, the GA's responsibilities have increased dramatically over the past years. As the biggest congregation of nations in the world, the GA faces the immense task of uniting nations to solve problems truly global in scope. At the same time, regional issues, smaller in size yet just as pressing, demand solving too. As such, as your chairs we expect you, delegates of the General Assembly, to give your best effort while respecting the rules of procedure and your fellow delegates.

We hope that GrunnMUN will be an amazing experience for all of you, and that besides the challenging debates and having a blast, you will make connections and friends that will last for a lifetime. We are very much looking forward to meeting you in February!

Your chairs,

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Figure 1: Russell, Steve. “Spacewar!” 1962. Video game.

“War and space exploration are alternative uses of the assertive, exploratory energies that are so characteristic of human beings. They may also be mutually exclusive because if one occurs on a massive scale, the other probably will not."

Frank White,

Author and Space Exploration Expert[1]

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[1] White, Frank. “*The Overview Effect — Space Exploration and Human Evolution.”* Houghton Mifflin, 1987.

Introduction

Since the birth of modern science, space has both awed and enticed the collective minds of mankind. The final frontier boasts the promise of resource exploitation, as well as providing the ultimate challenge of discovering the stars. It is increasingly likely that the future of the human race is not that of a species confined solely to Earth, but that of a people venturing out into the depths of space. This can be seen in the actions of space faring nations such as the United States, Russia, the United Kingdom, Japan and India, just to name a few[2]. Even though these nations currently only have the technological ability to place satellites in stable orbits and probes on relatively close celestial bodies like the moon, they still invest largely in their own respective space agencies[3]. However, as members of the international community take significant steps in expanding the space industry in all its forms[4], the question must be answered of what regulations need to be put in place for public and private actions in space. Above all, concerns for the nation-states of the world is the grave possibility that the destructive effects of war could be felt even in the outer reaches of our solar system.

Where there is competition between the economic superpowers of the world, there is also the increased likelihood of conflict, which can culminate into violence and warfare. The United Nations has considered the preservation of peace and the regulation of war as one of its primary purposes ever since its inception in 1945[5]; as shown in article 1 of the UN Charter[6]. Considering the increasing interest in space exploration and exploitation, it is necessary that the UN cooperate to pass effective resolutions that take into account these developments and take every possible measure to maintain peace in space for the good of all.

Currently, only a small number of nations have the capability to venture into space. However, any conflict that occurs outside of Earth's orbit has the ability to affect all persons on the planet, whether through a direct loss of life, indirect damages or unforeseen consequences. It

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[2] Verdict Media, "The 10 Countries Most Active In Space" *Aerospace Technology*, 2018. <https://www.aerospace-technology.com/features/featurethe-10-countries-most-active-in-space-4744018/> accessed 19 December 2018.
[3]Emma Luxton, "Which Countries Spend The Most On Space Exploration?" *World Economic Forum*, 2018. <https://www.weforum.org/agenda/2016/01/which-countries-spend-the-most-on-space-exploration/> accessed 19 December 2018.
[4]Karen Masters, "How Much Money Is Spent On Space Exploration?" *Curious.astro.cornell.edu*, 2018. <http://curious.astro.cornell.edu/about-us/150-people-in-astronomy/space-exploration-and-astronauts/general-questions/921-how-much-money-is-spent-on-space-exploration-intermediate> accessed 19 December 2018.
[5]United Nations, "History Of The UN | United Nations Seventieth Anniversary" *Un.org*, 2018. <https://www.un.org/un70/en/content/history> accessed 19 December 2018.
[6]United Nations. Charter of the United Nations and Statute of the International Court of Justice (adopted 26 June 1945), Article 1.

is for this reason that the United Nations General Assembly, being the largest congregation of the world's nations, must collective reach a decision that would reduce the damage that a space war could cause.

Historical Background:

Between 1957 and 1975, the United states and the USSR, as part of the ongoing cold war, were locked into a competition for space technology, now known as the "Space Race"[7]. It began with the USSR's launching of the first artificial satellite in October 1957, which successfully orbited around the planet while transmitting radio signals before burning up in earth's atmosphere. November of the same year saw a second launch by the Soviets, with Sputnik II performing similar tasks while carrying Laika the dog. This apparent technological superiority of the USSR sparked concern in the US, which responded by founding the National Aeronautics and Space Administration (NASA). This marked the beginning of America's space program, thus commencing the space race. The most significant date throughout the entirety of this conflict was July 20th, 1969, when NASA landed the first men on the moon[8]. Due to the magnitude of this achievement by the US government, it is of general consensus that the landing of Apollo 11 meant the US had beaten the USSR in the space race.

The fact that the cold war had taken to the dramatic stage of outer space ignited great concern around the world. Not only did the world have to consider threats from Intercontinental Ballistic Missiles (ICBMs), but due to the rapid development of space age technology, governments believed they must also look towards creating precautions against acts of aggression committed from space. More than 50 years ago, January 1967 brought the signing of the "Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies," which is commonly known as the Outer Space Treaty[9]. Seen as the "Constitution of Space," this treaty was ratified by 105 countries.

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[7]History.com, "The Space Race" *history.com*, 2018. <https://www.history.com/topics/cold-war/space-race> accessed 19 December 2018.

[8]NASA, "The First Person On The Moon" *Nasa.gov*, 2018. <https://www.nasa.gov/audience/forstudents/k-4/stories/first-person-on-moon.html> accessed 19 December 2018.

[9]General Assembly resolution 66/30, *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*, A/RES/6431 (28 June 1966).

Among other clauses, the treaty obliged states to not place nuclear weapons or other weapons of mass destruction in space, as well as forbidding the use of the moon or other celestial bodies for anything other than peaceful purposes. The treaty reflects the general belief that space is a realm that should not be subject to any type of major warfare because of the effects it could have on everybody on earth. The signing of several other major treaties that refined space law took place in the following years, including The Liability Convention and The Moon Agreement. While mainly reaffirming the original point of the Outer Space Treaty, the various new agreements expanded the area of international space law, solidified the ideal held by the UNGA that space is to be used for the good of all nations and that war in that area should be avoided.

Owing to the relative successes of NASA in its missions to explore our near solar system and the United States' esteemed victory in the space race, the Apollo program was decommissioned in 1975. This decreased both public and state interest in any kind of technological development that would aid in space travel. However, in 1998 the first pieces of the International Space Station (ISS) was launched. Two years later, in November 2000, the first crew arrived and since then people have lived in the ISS, carrying out research that could not be performed on Earth[10]. The creation of the ISS brought the topic of space back into public focus and discussion. Since then, in addition to governments attempting to advance our knowledge and access to space, private organizations have also attempted this, as will be discussed later. Seeing as there is an increase in interest in space exploration, organizations involved in space exploration and technology available for space exploration, it is unclear whether the current treaties would be able to address all facets of a hypothetical space war of the current age. After all, the treaty only spans 17 articles, and was written 50 years ago. Seeing as the treaty was created during the infancy of space exploration, the treaty was written in a flexible and limited way in order to be sustainable while space technology and discovery advanced.[11]

It has already been shown that the current treaties are not all-encompassing, as several parts of the treaty have been disproven or challenged. For example, the clause stating that the moon and other celestial bodies cannot be used for commercial purposes by governments has

[10]NASA. 'What Is The International Space Station?' *NASA*, 2018. <https://www.nasa.gov/audience/forstudents/k-4/stories/nasa-knows/what-is-the-iss-k4.html> accessed 19 December 2018.
[11] Loren Grush, "How an international treaty signed 50 years ago became the backbone for space law." *The Verge*, 2017. <https://www.theverge.com/2017/1/27/14398492/outer-space-treaty-50-anniversary-exploration-guidelines> Par. 4.

been challenged by private companies offering to sell territory on these celestial bodies.[12] These private agents argue it is not against the treaty, since they are not countries. Additionally, the U.S. has passed a Space Act themselves in 2015, which allows their citizens to "engage in the commercial exploration and exploitation of space resources".[13] While this, like the issue before, does not directly violate the Outer Space Treaty, this has caused a lot of international discussion and verbal conflict. Additionally, there is a current debate about the clause prohibiting nuclear weaponry in space, as it is becoming clearer that GPS and satellites can be used for military purposes, and new technological advancements in weaponry can circumvent the phrasing of the Outer Space Treaty to avoid violating it.

Current initiatives

Depending on one's definition, it could be claimed that the first space war has already been fought. The Gulf War, conducted by a US led coalition of states against Iraqi forces in 1991, was the first war that implemented space age technology in an armed conflict. GPS was used to help navigate and guide weapons of the coalition and contributed to the ultimate defeat of Saddam Hussein[14]. While this example of space warfare is far from reaching its most damaging potential, developments like GPS have forced states to think about their own military in regard to capabilities outside the earth atmosphere. Owing to the rapid development of technology, some consider the extension of conflicts to include space to be inevitable and states are forced to consider this possibility[15].

Despite the efforts being taken by the UN and its members, the militarization of space has continued, with weapons being created to be able to launch attacks from orbit to the surface of the planet. For example, the concept of kinetic bombardment used to be considered an imagined part of science fiction. However, in 2013 the United States air force tested a ground-based weapon resembling a kinetic bombardment, known as the electromagnetic railgun, that in its

[12] Jill Stuart, "The Outer Space Treaty has been remarkably successful – but is it fit for the modern age?" (*The Conversation*, 2017) <http://theconversation.com/the-outer-space-treaty-has-been-remarkably-successful-but-is-it-fit-for-the-modern-age-71381> accessed 24 January 2019. Par. 9.
[13] Ibid. Par. 10.
[14]Larry Greenemeier, "GPS And The World's First 'Space War'" *Scientific American*, 2018. <https://www.scientificamerican.com/article/gps-and-the-world-s-first-space-war/> accessed 19 December 2018.
[15]Duncan Blake and Dale Stephens. "Space Could Become The Battleground Of The Future". *World Economic Forum*, 2018 <https://www.weforum.org/agenda/2017/11/the-conflicts-of-the-future-will-take-place-in-space-heres-one-way-were-preparing> accessed 19 December 2018.

final design would be used from a low earth orbit[16]. The weapon would be placed in an orbit around the planet where it would be ready for use at all moments. It would release a heavy metal rod, ensuring it would fall back onto the surface of Earth, causing massive destruction without having to use any expensive radioactive material. There have also been talks of developing technologies for the use of intra-space conflict. In 1998, Lieutenant Colonel William H. Posses spoke openly about the possibility of the US Air Force using a hydrogen fluoride laser usable in space-to-space combat[17]. More recently, there has been evidence suggesting that the Defense Advanced Research Projects Agency (DARPA) is working on its own space weapon known as the X-37B.[18] Although not much is known about the unmanned and reusable spacecraft, there have been continued reports of the craft entering into lower earth orbit. The unwillingness of the US government to divulge any information on the X-37B and the fact it was created by the Air Force points to the likelihood of its military purpose[19]. Furthermore, the announcement of the US "Space Force" is further evidence that war in space is something the U.S. government is preparing for.

In addition to the U.S. government's efforts, developments in the private sector have the potential to contribute in any national efforts to assert a defense or offensive presence in space, even though they are not militaristic in nature. One of the main issues with all space flights is the energy and money required to get any payload into space. Additionally, the vast majority of the equipment used to achieve this task is destroyed soon after launch. Due to the investment of a privately-owned company this problem might be solvable. SpaceX successfully tested what is now known as their reusable launch system (RLS) in March of 2017. This groundbreaking invention makes it possible to reuse propulsion systems for later use in future launches or programs, which is considered to be of great importance for space exploration[20]. However, given this will lead to the reduction of costs of manned and unmanned missions to space, it will also become easier for military forces to make use of this technology.

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[16] Jared Keller, "The Pentagon's New Super Weapon Is Basically A Weaponized Meteor Strike". *Task & Purpose*, 2018. <https://taskandpurpose.com/kinetic-bombardment-kep-weaponry/> accessed 19 December 2018.
[17]Garden, H. and Military, F. "How Space Wars Will Work." HowStuffWorks, 2019. <https://science.howstuffworks.com/space-war2.htm> Accessed 25 Jan. 2019.
[18] Kiona Smith-Strickland. "What's the X-37 Doing Up There?. "Air & Space Magazine. <https://www.airspacemag.com/space/spaceplane-x-37-180957777/> [Accessed 25 Jan. 2019]. Par. 2.
[19]Ibid. Par. 5.
[20] Henry, Caleb (March 30, 2017). "SpaceX demonstrates reusability". SpaceNews.

Additionally, there is an increased presence of privately-owned space companies that complicates matters even further, as this has not been considered in international treaties so far. These companies are increasing human presence in space, with offers to go to the edge of space by Blue Origin, a suborbital weightless flight by Virgin Galactic, a 12-day space-hotel stay provided by Orion Span, being sent into space with the Russian spacecraft Soyuz courtesy of Space Adventures, weightless flights by KosmosKurs, and many others.[2122] Aside from this, a private company claims to have sent 146 privately owned satellites into orbit with the explicit purpose of taking high-resolution pictures that can see "objects the size of a fist" anywhere on earth.[23] Reportedly, there have also been privately owned space companies that are attempting to create long-term space-stations, satellites or other technology that could potentially be used for military purposes. While these private efforts to broaden our access to space are full of opportunities for science, research, tourism and space discovery, there is a downside that the international community is concerned with. In addition to checking if these private endeavors are not violating space treaties, it is important to consider whether the current treaties are enough to maintain peace and fairness in space.

While the private sector is quickly expanding, the United States has also renewed its own efforts. In December of 2017, president Trump signed a directive calling for NASA to establish a space program that would allow for sustainable exploration of the solar system, while keeping in mind "commercial and international partners"[24]. In response to this, NASA has established the National Space Exploration Campaign that, in 2020, will begin landing astronauts to the moon and Mars. It is of extreme importance that this new program is given careful consideration by the UN in order to ensure that NASA's actions are in accordance with existing international regulations and that this does not ignite an international armed conflict in space due to commercial competition.

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[21]Polina Marinova, "The Private Space Race: By the Numbers" Fortune.com, May 2018. <http://fortune.com/2018/05/29/private-space-flight-companies/> Par. 2+4.

[22] Stefanie Waldek, "How to become a space tourist: 8 companies (almost) ready to launch." PopSci.com, April 2018. <https://www.popsci.com/how-to-become-a-space-tourist>

[23] Victoria Bell, " Largest fleet of satellites ever launched into space" Daily Mail, January 2019. <https://www.dailymail.co.uk/sciencetech/article-6639285/Private-space-company-Planet-Lab-launches-300-satellites-orbit.html> Par. 1.

[24]'NASA Unveils Sustainable Campaign To Return To Moon, On To Mars' (*NASA*, 2018) <https://www.nasa.gov/feature/nasa-unveils-sustainable-campaign-to-return-to-moon-on-to-mars> accessed 19 December 2018.

The rapid development of the US space program, while certainly the most advanced, does not stand alone in the arena of state-funded space agency. Japan has also been at the forefront of these developments. The Japan Aerospace Exploration Agency (JAXA), has launched many of their own missions in the area of space exploration to aid their own international, scientific breakthroughs. In 2009, JAXA successfully launched their new Small Demonstration Satellite-1 (SDS-1), which was meant to demonstrate new technologies created by JAXA's research center[25]. With a multitude of applications, this new development is just one example of Japan's extensive space program. Still more programs, such as the European Space Agency, prepare for long term missions to the moon where permanent bases will be established[26]. The Indian Space Research Organization (ISRO) recently launched a new communications satellite into orbit, and currently holds the record for most satellites being sent into orbit in one flight.[27] Even with all these separate programs run by different nations states, there is a common area of hope in the form of the international space station (ISS). The ISS stands as a perfect model for what the international community should look to when it comes to global cooperation. Not only would an internationally cooperative effort be the most productive method of advancement, but it is also an effective way of ensuring peace in our solar system.

Considering the increasing presence of humanity in space and the fact that space age technology remains in its infancy, especially in the area of weaponry, are reason enough to consider renewing and rethinking current regulations. Currently, a space war would be able to do more damage than at any other point in history. Modern life requires that the functionality of GPS and other signaling satellites are assured and warfare in space could lead the loss of technology that current society depends on. The extent of the destruction that could result from a conflict in the inner solar system should be considered when discussing the importance of international law in this area.

Past UN Actions:

[25]JAXA | Japan Aerospace Exploration Agency. (2019). *JAXA | Small Demonstration Satellite-1 (SDS-1)*. <http://global.jaxa.jp/projects/sat/sds1/index.html> Accessed 28 Jan. 2019/

[26]ESA. "Moving On The Moon". 2019. *European Space Agency*. <https://www.esa.int/About_Us/EAC/Moving_on_the_Moon> Accessed on 18 December 2018.

[27] Stephen Clark, " Indian space program closes out year with launch of upgraded GSLV" SpaceFlightNow, December 2018. Par. 1. <https://spaceflightnow.com/2018/12/19/indian-space-program-closes-out-year-with-launch-of-upgraded-gslv/>.

In consideration of humanity's presence in space, the UN has developed five sets of principles on space-related activity. These principles take into account the interest of States, international legality, broadcasting, remote sensing, but also the usage of nuclear power for space-related activity.[28] As mentioned above, there are five primary UN instruments on the topic of international space law; collectively referred to as the "five United Nations treaties on outer space"[29]. The first was the Outer Space Treaty, signed in 1967, which primarily stated that any activity in space should be for the betterment of humanity, it should be a safe and peaceful location and no countries hold any ownership over parts of outer space. The second, which is commonly known as the Rescue Agreement, asks States to "take all possible steps to rescue and assist astronauts in distress".[30] The third treaty holds that a launching State will be held liable for all damages caused by the launch or by its space objects. The fourth established an international registry of all items sent into space, as held by the UN. The fifth treaty reiterated the idea that celestial bodies were meant to be peaceful places and no country on earth can own parts of it. These documents seemed to be preventative, while in reality they were mostly created as a reaction to the actions of the various spacefaring nations. For example, the most well-known of the five, The Outer Space Treaty (OST), was for the most part drafted to include a loose set of principles that the USA and the USSR were to adhere to. The document includes a clause restricting the placing of nuclear weapons or any weapon of mass destruction in space. However, since 1967, the arena of technology and space exploration has shifted dramatically. It is therefore necessary to update these laws to ensure the advancements in the space industry does not leave vital regulation behind.

The stance of the international community

The stance of the international community as a whole is observed in all five of the Treaties: space is to be used for the good of all humanity, not just for the benefit of those states who have the capability to exploit it. This stance is most clearly seen in Art. I of the Outer Space

[28] Space Law Treaties And Principles' (*Unoosa.org*, 2018)
<http://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties.html> accessed 19 December 2018
[29]Ibid.
[30]UNOOSA. "Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space"
<http://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties/introrescueagreement.html> accessed 20 January 2019.

Treaty of 1967[31]. It follows that a war in space would act in contrary to Art. I, as the nature of an armed conflict is to further the interests of a particular state or collation of states. Moreover, paragraph three of the article mentions that states have the obligation to ensure international cooperation in space, this clarifies further the position of the international community as being against any war in space. As a result, it is the duty of the United Nations General Assembly to uphold this long-standing position of the community at large of ensuring minimal military conflict in space. While all States seem to agree on a peaceful use of outer space, they also have individual interests in gaining access to space for commercial and research purposes. So far, these two ideals have not crossed yet, and it is the duty of the UN to consider what should be done if such a clashing of ideals occurs.

Conclusion

In order to maintain global peace in space, the international community needs to come together to regulate the hypothetical use of weaponry in space. As space exploration expert and author Frank White says: *"War and space exploration are alternative uses of the assertive, exploratory energies that are so characteristic of human beings. They may also be mutually exclusive because if one occurs on a massive scale, the other probably will not".*[32] In order to ensure this exploratory energy goes into space exploration for the good of mankind, the international community needs to eliminate the possibility of a space war. While there have not been any major violations of the space treaties, discussions have been started that question whether these treaties are concrete enough and whether they will be able to avoid future conflict or war. It is the duty of the United Nations General Assembly to consider all these issues, and determine whether the treaties need to be specified, broadened or renewed in any way, in order to maintain peace on earth and in space.

Questions the resolution must answer

i. What categories should fall under the heading of space weaponry or space warfare?

ii. What topics are not yet discussed in current treaties concerning space, and how will the

[31]General Assembly resolution 66/30, *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*, A/RES/6431 (28 June 1966), Article I (1)(3)

[32] White, Frank. "*The Overview Effect — Space Exploration and Human Evolution."* Houghton Mifflin, 1987.

resolution address this?

iii. How will the resolution address current technological advancements and potential future technological advancements?

v. How can the implementation of the resolution be encouraged?

Additional recommended reading

- The general website of the United Nations Office for Outer Space Affairs: http://www.unoosa.org/
- The five UN treaties and principles regarding space-related activity: http://www.unoosa.org/oosa/en/ourwork/spacelaw/treaties.html
- The efforts of the UN so far in regard to disarmament in space: https://www.un.org/disarmament/topics/outerspace/
- The instruments that constitute the principal body of international space law: http://www.unoosa.org/res/oosadoc/data/documents/2017/stspace/stspace61rev_2_0_html/V1605998-ENGLISH.pdf

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