

Deterring the Militarization of Outer Space

Forum: Disarmament Commission

Student Officer: Jina Yoo, President

Introduction



The first satellite that launched from the Soviet Union, Sputnik I

Since the Soviet Union has launched its first satellite, Sputnik I, in 1957, space militarization has been a contrast concern in the United Nations (UN). In recent years, leaders of various countries, including former US President Donald Trump, have been interested in space militarization.

Therefore, over the past few years, the commercial aerospace industry has grown unprecedented, not to mention the improvement of CubeSats and other technologies that are making space more approachable. Moreover, in the future, orbiting commercial flights, moon tours, Mars tours, and off-world colonies may also become a reality,

which may cause space to become more complicated and raise more problems. Because of this, many people are proposing to create police forces to maintain peace in space.

The UN has not done many things in this field yet. The only that they have done is establishing the UN Committee for Peaceful Uses of Outer Space (UNCOPUOS). The committee specifically elaborated on 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 emphasizes the common interest of humans in space exploration and use for peaceful purposes. On the contrary, space has always been used for military purposes. Hence, since the difference between “peaceful” and “military” purposes play an important role in the legal framework of use, they should be determined in great detail and accuracy.

Background

Since the beginning of the Space Age, space has been repeatedly exploited for military purposes. Luckily, it has yet been made practical, as it has been limited to Earth observation and other support activities by satellites, including navigation, communication, and meteorology. This is “passive, non-destructive use” of external space for military purposes. On the other hand, there are many concerns that space could be used for further “active, destructive capacity” military applications in the future. This poses a problem because if space is used as the latter, it could present a real and physical threat to Earth and objects in space. Fortunately, such “active, destructive capacity” is not deployed in space. However, there are concerns that some member states have plans to use space for “active, destructive capacity” military application. Furthermore, with many space weapons constantly developing now, the development of space weapons has



The newsletter of the PAROS

raised international concerns that space could be included in the nation's military efforts and become a battlefield in the future. Therefore, it is necessary to pay more attention to the rules of international law governing space activities.

Military use is explicitly recognized and prohibited as a “national technical means of verification” in the framework of the Anti-ballistic missile (ABM) or arms reductions and in arms reduction treaties, including the new Strategic Arms Reduction Treaty (START) that signed on 8 April 2010. Nowadays, the use of satellites for military purposes is generally accepted by the international community. Since the 1970s, satellites have already been used for military purposes, accounting for about 60%, and it is estimated that about 70% of today's satellite launches are dedicated to military use.

Recently, International Humanitarian Law has been created to protect the peace of the space. While the clear purpose of use of all satellite should be revealed and marked, many supporting satellites, such as those used for observation and communication for military purposes, are not clearly considered “military”. This is because marking

military equipment is not progressing fluently. To be specific, in external space, “spy satellites” are registered in the UN register of space objects, but they have been marked exactly. They contain phrases such as “earth observation” or “research” just under the direction of “general function of objects”. Nevertheless, the reason why they have known as military satellites is that the Department of Defense (DOD) sometimes spears as an “appropriate designator”. The International Atomic Energy Agency (IAEA) Statute also uses the terms “peaceful purpose” and “military purpose” but does not define them clearly. In order to solve the problems listed above, the Agency must support the peaceful use of nuclear energy and be no longer used for “military purposes”.



A spy satellite in the US

International Actions

The Outer Space Treaty signed in January 1967, forms the basis for outer space law. According to the treaty, space exploration is open to all people, do not receive national sovereignty or claims from any country, and space exploration must be for the benefit of all humanity.

The treaty was initially signed by three countries, the Soviet Union, the UK, and the US, and by June 2019, 109 countries had signed the treaty, while another 23 signed it but failed to complete the ratification process.

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The main issues of the space treaty include banning the deployment of nuclear weapons in outer space, using the moon and all other celestial objects for peaceful purposes, and stipulating that all countries should be free for space exploration and use. However, the space treaty did not prohibit all military activities in space, the creation of military space forces, nor the weaponization of the universe. Consequently, apart from weapons of mass destruction, such as nuclear weapons, countries can place military assets in space without any sanctions.

There is another treaty related to the demilitarization of outer space, which is the Prevention of an Arms Race in Outer Space (PAROS). It is a peace treaty that has received almost unanimous support from the international community, including Russia and China, while the US refused to negotiate on the grounds of missile defense and the superiority of potential space weapons. The Bulletin of the Atomic Scientists reported that the US rejected all four resolutions of the 2018 UN General Assembly's First Committee meeting dealing with disarmament and the prevention of space weaponization.



Delegates from other countries are signing the Outer Space Treaty

Places of High Concern

United States of America

On January 14, 2017, former US President Donald Trump issued an executive order for federal agencies to investigate vulnerabilities in the country's manufacturing and supply sources related to the militarization of outer space. In a report to Congress, the Pentagon told US satellites and missiles have continued to depend on customized hardware and niche components that have been no longer manufactured domestically. Therefore, Defense Department's Fiscal Year 2020 Industrial Capabilities Report, which the DOD has had to submit annually to the congressional defense committees, said such old programs should invest in new technologies and qualify new suppliers.



A Space and Rocket Center in the US

However, many of the currently planned systems rely on outdated technologies and practices, as well as vulnerable external sources. For this reason, the dependence on foreign resources on critical technologies, competition for low-cost imports, and irregular demand from national security space companies will compromise essential spatial capabilities and critical technologies and threaten access to domestic industrial resources.

Russian Federation

As the US space force develops, Russia is also challenging the other countries'

dominance in space, continuing to increase its military space assets. Russia strives to expand its anti-access/area-denial approach in space into electronic warfare, increase the sustainability of its communication systems, and develop attack capabilities on ground-based space infrastructure.



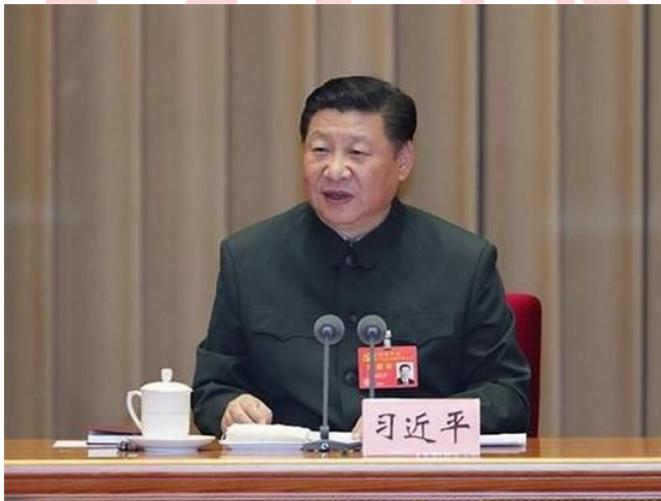
A missile launched into space in Russia

Russia now has more than 160 satellites with about 100 military spacecraft. Although Russia's economy is less dependent on space infrastructure than other European countries, China, or the US, it tries to maintain at least the third largest military satellite constellation in orbit.

There is no official budgetary information for Russia's military space program. Nevertheless, the annual cost of developing Russia's military satellite

constellation is estimated to be about \$1 billion, based on governmental open sources and financial data from the state space corporation Roscosmos. More specifically, in 2019, the expenditure on the Russian space navigation system GLONASS was \$437 million, and the expenditure on the military launch site Plesetsk was at least \$100 million annually. All this effort and the maintenance cost of the ground-defense space infrastructure and personnel means that Russia's military space program is about \$1.6 billion.

China



Chinese President Xi Jinping asking Chinese Air Force to quickly make advancements in space field.

Chinese President Xi Jinping reportedly asked the Chinese Air Force to quickly complete the integration of aviation and space capabilities. During a visit to the air force headquarters of the People's Liberation Army in Beijing, Xi called for "new forms of combat power" and said military leaders should be able to respond quickly and effectively to air and space emergencies. There were quite a few people who estimated and criticized the request as a response to the actions of the US and other world powers.

China became the third country to send humans into space independently and launch a spacecraft on the moon after the Soviet Union and the US.

However, China's space program has raised concerns among US observers. The Chinese government received widespread criticism in 2007 for conducting an Anti-Satellite (ASAT) test without prior warning from foreign powers. During the experiment, China detonated one of its own satellites, creating about 3,000 additional new space junk in the Earth's orbit.

Possible Solutions

As there are many aspects to this problem, many solutions can be proposed. Among the many problems that exist within this issue, the three of the gravest are the following:

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1. The fact that there are still some countries that have not signed peace treaties of space, including the Outer Space Treaty or PAROS. Moreover, though some countries signed treaties, they have failed to complete the ratification process,
2. The fact that many satellites and weapons in outer space are not exactly marked and categorized,
3. The fact that the reason many countries desiring to militarize outer space is that they face strong competition and Cold War.

Therefore, all countries should be enforced to sign in at least one peace treaty to ensure all countries' higher safety. Moreover, it is necessary to hire more people and systems to carefully record and categorize all weapons and satellites in outer space, which will be easier to control such equipment. Finally, make some negotiations between all countries regularly to create a peaceful atmosphere, which can reduce the number of weapons in outer space.

Glossary

CubeSat: a type of miniaturized satellite for space research that is made up of multiple cubic modules.

An anti-ballistic missile (ABM): a weapon designed to intercept and destroy ballistic missiles.

New Strategic Arms Reduction Treaty (START): a nuclear arms reduction treaty between the US and Russia, which was signed on 8 April 2010 in Prague.

International Atomic Energy Agency (IAEA) Statute: a statute that was approved on 23 October 1956 by the Conference on the Statute of the IAEA, which was held at the Headquarters of the UN.

Department of Defense (DOD): executive division of the US federal government responsible for ensuring national security and supervising US military forces.

Roscosmos: the coordinating hub for space activities in Russia.

Anti-Satellite (ASAT): weapons designed to incapacitate or destroy satellites for strategic or tactical purposes.

Timeline

1957 – The US and its Western allies submitted proposals on reserving space exclusively for “peaceful and scientific purposes”, but it was rejected by the Soviet Union since they were preparing to launch the world’s first satellite and test their first intercontinental ballistic missile.

1963 – The Declaration of Legal Principles was released by the General Assembly (GA) resolution 1962 (XVIII) on 13 December.

1966 – The US and the Soviet Union submitted separate draft Outer Space Treaties to the UN GA in June.

1967 – The Outer Space Treaty was adopted by GA in its resolution 2222 (XXI), opened for signature on 27 January, entered into force on 10 October.

1968 – The Rescue Agreement was adopted by the GA in its resolution 2345 (XXII), opened for signature on 22 April, entered into force on 3 December.

1972 – The Liability Convention was adopted by the GA in its resolution 2777 (XXVI), opened

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for signature on 29 March, entered into force on 1 September.

1975 – The Registration Convention was adopted by the GA in its resolution 3235 (XXIX), opened for signature on 14 January, entered into force on 15 September.

1979 – The Moon Agreement was adopted by the GA in its resolution 34/68, opened for signature on 18 December, entered into force on 11 July.

1982 – The Broadcasting Principles was released by the GA resolution 37/92 on 10 December.

1986 – The Remote Sensing Principles was released by the GA resolution 41/65 on 3 December.

1992 – The Nuclear Power Sources was released by the GA resolution 47/68 on 14 December.

1996 – The Benefits Declaration was released by the GA resolution 51/122 on 13 December.



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