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The Dynamics of Security Dilemma and Outer Space Militarization

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Introduction

The enormous dependency on space for economic, civilian, and military activities has increased the tension between the global powers and escalated the future possibilities of space militarization. Nevertheless, during the cold war, both U.S and USSR practiced some efficient self-restraint on utilizing outer space only for peaceful purposes. Therefore, both states adopted bilateral agreement and mutually initiated different negotiations for banning the deployment of aggressive capabilities in the space (Dahlitz,1988). Nevertheless, the adopted legal regime for regulating space activities remain vague and incapable of addressing modern advanced technological developments. Besides, the number of space actors and deployed dual purposes satellites in the earth orbit critically elevated the national security concerns and threats which turned the space orbit into a playground arena for an arms race between the big space players for preserving their national interests on earth and ensuring their survival (2017). Adding to, a past event like China's ASAT (Anti- Satellite Missile Technology) test, U.S aggressive developed Missile Defense project and North Korean development in space programs highlights the inevitability of future space militarization and weaponization which could lead to catastrophic consequences (Taft,2017). Therefore, the researcher will try to understand why thus far there is

an absence of full prohibition of space militarization and what could be the most potential explanations behind the reluctant approach of the major space power on forming updated legal regime that could effectively address the different dimensions of space militarization and ban the deployment of recently developed advanced weapons.

Literature Review:

For investigating the potential explanations behind the absence of common agreement between the space powers on the total prohibition of space militarization and adopting a new binding legal regime for regulating the space weaponization aspect, the literature review section will be divided into two sections. The first section will examine the role of the international community in addressing the issue while the second part will mainly focus on the role of leading space power U.S while examining the potential explanations behind its weak and indecisive political well for achieving a total ban on the deployment of any kinds of weapons in the space.

1-The International Community and the Failure of Current legal Regime in Banning Space Militarization

Many of the published literature criticizes the weak well of the international community in establishing a legal regime for a full prohibition of space weaponization. For example, Rosas (1983) states that the previously adopted treaties and agreements only have addressed the issue of deploying weapons of mass destruction (WMD) while neglecting the other types of weapons that could create the same damage as WMD. Moreover, most of the adopted treaties didn't directly prohibit the on-ground testing of those weapons which could easily target any object in the space without deploying the weapons in the earth orbit. Adding to this, both Din (1983) and Dahlitz (1988) highlight another weak point of space law. They argue that the language of the adopted treaties is ambiguous its interpretations are vague and not specific which creates loopholes that are abused by space power for space militarization. In other words, there is no

clear crossing line for distinguishing offensive and defensive weapons which creates more obstructions for banning different kinds of weapons. In parallel, both Rosas (1983) and Taft (2017) argue that the old treaties played an effective role in regulating space activities during the cold war, however, they are incapable and insufficient in addressing the current technological advancement and insufficient in delivering the required adequacy for keeping pace with the modern technological space capabilities. To put it differently, Espraza (2018) states that the adopted treaties like Outer Space Treaty addressed the nuclear weapons since it was the biggest threat back then, but it is inadequate for addressing the newly developed weapons that could be used for offensive purposes. However, Bridge (1979) says that the strong political agenda of leading powers like the U.S is behind the absence of legal binding regime for prohibiting space weaponization since space is an important arena for its national security interests and critical arena for expanding their defensive capabilities that enhance their security matters against its enemies. Lastly, Maogoto & Freeland (2007) argue that the international community must adopt new laws for forming a new regime that could address the new developed space technological capabilities by setting clear definitions and clearly defining different term such us peaceful uses, space weaponization, space militarization, and military use as a primary point for addressing the weak point of the old treaties and space law.

2- The U. S Approach toward Prohibiting Space Militarization

After the cold war, the U.S had an expansionist and offensive political agenda which many scholars relate to the absence of total prohibition of space militarization. For example, Taft (2017) and Rosas (1983) argue that history proves U.S weak political enthusiasm for supporting the prohibitions of space weaponization. As a leading global power, it didn't show any signs of initiations for adopting a new legal framework regarding space weaponization due to its offensive agenda in the international arena. Its offensive space strategy was highly noticed

throughout its history. For example, the past administrations like Reagan's administration that called for developing BMD weapons (Rosas, 1983) and George Bush's administration that called for adopting unilateral offensive space policy (Taft,2017) reflects its offensive agenda regarding space policy and their concern for maintaining its dominance. In other words, U. S's space history proves its continuous violations of the adopted treaties while being ready to adopt an offensive policy for deploying more advanced capabilities in the space for serving its interests. Adding to Taft's findings, Pike (2002) argues that the U.S is seeking space domination through its space agenda and its newly adopted policy. As a result, both China and Russia initiated negotiations for adopting new regulations for prohibiting space militarization but the U.S showed little interest and enthusiasm for practicing self-restraint on its offensive space capabilities due to its importance for securing its vital interests like global military and economic superiority. As well as, Chow (2018) says that U.S disagreed with the joined proposal of Russia and China (Prevention of the Placement of Weapons in Outer Space -PPWT) by stating that it doesn't fit the U.S national security agenda and its political policy while even reducing its national security aspect and harmfully affecting the security of its allies. In parallel, both Krepon & Clary (2003) and Salzenstein (2018) claim that the U.S will keep expanding its offensive capabilities in the space while avoiding compliance with space law due to its global hegemony and the need for defending their interests. For supporting the above, Salzenstein (2018) finds that U.S space act 10 already violates the basic guidelines of the Outer Space Treaty by arguing and claiming the right for owning space resources and having sovereignty over them.

Research Questions and Objectives:

Most of the previous literature examined the different possible motives behind the absence of a legal framework for the total prohibition of space militarization. Mainly the most discussed arguments were the failure of the international community as global governance due to the lack

of enforcement mechanism and the inadequate mechanism of old treaties for addressing the new modern technological capabilities. The second argument was related to the offensive political agenda of the U.S expansionist history. Its past historical policy has been seen as a challenger for adopting a new legal framework for space weaponization. However, the dynamics of the security dilemma and the mutual mistrust between the space power could explain the absence of total agreement on banning space militarization. Therefore, the paper will seek to answer the following question:

1- How could the dynamics of the security dilemma explicate the absence of a legally binding regime for the total prohibition of space militarization?

Objective:

For addressing the question, the research will examine the main concepts and principles of the security dilemma and try to relate them to the space environment and militarization events for evaluating the strength of the security dilemma as a potential explanation. The paper will study and relate three main drivers of the security dilemma, which is the anarchic structural environment, the accumulations of the offensive power of space powers, and their shared common hostile intentions between each other.

Thesis Statement:

The dynamics of the security dilemma is a strong motive behind the absence of total agreed prohibition of space militarization.

Research Methods and methodology:

The study will adopt a qualitative research method. It will combine primary and secondary internet-based sources. Publicly published and easily accessible data will be used during the work to make arguments based on other's empirical findings of different scholars. Primary

resources will mainly focus on a governmental document while the second will be based on peer-reviewed articles and some media may be used to support the general arguments.

The researcher will apply the main three components of the security dilemma into the space environment. Firstly, the anarchy will be examined by studying the nature of the legal regime that regulates space activities. Secondly, for testing the applicability of the concept of accumulative power, the paper will examine different developed space capabilities and if they have offensive use while paying attention if those programs were developed as a response to other state's development of space technology and capabilities. Lastly, the common mistrust and maligned intent will be examined through space powers' view on their national security and how much attention they pay for their space programs or raising concerns regarding other state's advancement. After evaluating the main three elements of the security dilemma, the researcher will conclude whether the dynamics of the security dilemma can explain the absence of an updated legal framework for prohibiting space militarization or not.

Theoretical Framework:

The security dilemma dynamics will be used as a theoretical base for the analysis part. To start with, the security dilemma is the result of one state increasing its security while in return decreasing the security. Adding to this, the anarchic structure environment is the main driver behind the sense of increasing decreasing security relatively. In other words, states will always seek tools to increase and ensure their security. As a result, it will increase political competitions and fuel the conflicts between the states (Jervis,1978). The stimulation security dilemma dynamics need different motives. The first aspect for creating the dynamics of the security dilemma is the existence of an anarchic environment in which states interact. The anarchic environment creates concerns and threats. Therefore, states feel obliged to increase their security for ensuring their survival and dominance, which explains that the security dilemma will lead to

conflicts among the political powers (Herz,1950). Secondly, there is a need for accumulated military power. The accumulated offensive military capabilities trigger the dynamics of the security dilemma. In other words, the accumulation of destructive capabilities of one state while the other lack the advanced capabilities to encounter it will increase the level of security sensibility and threats since its interests and survival is no longer can be guaranteed which in return will push it to developed a new advanced more offensive protective capabilities to ensure its security for encountering the power of the opponent (Wheeler,2001). To put it differently, the arming idea for reducing the security of other state's focuses on the military capabilities and its ability to perform its tactical missions rather than focusing on the number of military assets (Jervis,1978). The military buildup can make the opponent more concerned about its security because it can easily harm its capability to defend itself and increases the level of uncertainty and mistrust towards the adversary intentions (Glaser,1997). Thirdly, due to the anarchic structural environment and the lack of trust, states have maligned intentions toward each other since the created fear for ensuring their security can't be achieved through empathy and mitigations. The existence of continuous mistrust and shared suspicion toward each other's intentions as Butterfield claimed in his book "History and Human Relations", states always struggle with knowing the real intentions and the motives of their opponent (Wheeler,2011).

Findings and Analysis:

From a first glance on the space environment, the anarchic structural nature where space powers interact is barely seen and mostly least visible comparing to the structural nature of the international system on the ground. To start with, space politics, space militarization, and the use of power were always regulated by the UN and the security council. After launching Sputnik in 1957, the UN General Assembly created the UNCOPUOS for regulating space activities and developing a legal framework for space law (Mutschler,2010). In consequence, many different

treaties have been adopted to address the use of force in space and weapons deployment. Nevertheless, space governance and international law remain weak and ineffective for addressing space weaponization matters since it is only focused on banning nuclear weapons or weapons of mass destruction. In other words, the efforts for controlling space arms race and weaponization remain mostly not universally adhered to and lack the enforcement mechanism due to its language, interpretation, and the developed technological advancement by the space powers (Mutschler,2010). Adding to, the UNSC adopted resolution and decisions regarding the use of force are still controlled and manipulated by the veto power of the five permanent powers who in return are active space power with most aggressive and advanced capabilities in the space which in return could lead to deadlock in adopting a legal framework for regulating space militarization (Wouters & Ruys, 2005). To put it differently, space politics and space power still interact under the structural international system that we have on earth, which is anarchic in its core as there is still absence on a central authority for regulating the state's activities and behavior. The big space powers still have a big role and control over international law and space politics which explains the absence of central independent authority for regulating space environment. In other words, the absence of banning space arms and militarization could be highly explained by the strong influence of the dynamics of the security dilemma since it fulfills the first main element of it which is the international anarchy.

Adding to this, the element of anarchy is also captured in the state's fears and worries toward each other intentions. Interacting in an unknown environment while lacking the certainty towards the opponent's behavior which creates fear in return is part of the anarchy. In outer space politics, it is highly noticed among big players like Russia, U.S, and China. Many of the proposed legal instruments for prohibiting space militarization has been rejected due to the fear of uncertain outcomes and consequences like the proposed PPWT treaty by Russia and China has been

refused by the U.S due to their big fear that it may allow any state to build up offensive capabilities that could threaten its national security since it can increase its space vulnerability due to the growing dependency on space applications for ground uses especially the military aspect (Mutschler,2010). Another example that highlights the element of fear and uncertainty in the space environment is the U.S reaction towards China's development of ASAT. U.S members of the House of Armed Services Committee showed their fear of China's intentions and motives while arguing that space prohibiting space militarization is out of the question and silly and even pushed for increasing the budget on space programs and emphasizing the U.S must develop more advanced and offensive capabilities that can destroy opponent's ASAT (Mastalir, 2009).

The second aspect of the security dilemma that must be examined in the space environment is the power accumulation of potential offensive capabilities. Power politics is mainly centered on military capabilities. However, in outer space politics and international regime, the definition of weapons and defining the crossing line between offensive and defensive capabilities remain unclear which creates ambiguity in analyzing the offensive power accumulation in outer space (Dahlitz,1988). Nevertheless, the race of developing advanced space military capabilities has been highly noticed after the cold war between big power like Russia, China, and U.S (Taft,2017). Great powers like the U.S and Russia focused on developing the ASAT system due to their space vulnerability and its importance for their ground military purposes (Rosas,1983). Adding to, new growing actors like China and North Korea have developed the ASAT system as well while even testing it (Taft,2017). In other words, the development of the ASAT system through history always triggered other players to develop more advanced space capabilities which reflect their concern about the potential offensive capabilities of the opponent. On the other hand, the ASAT system, BMD tools, and the developed technology satellites of dual purposes indicate their potential use for offensive capabilities that the legal space regime didn't

strictly address or clearly defined (Din,1983). In other words, the adopted treaties have formed the basic lines for space militarization while leaving gaps in addressing the specific type of space weapons and capabilities which in return has created a vague opportunity for big power for abusing the ambiguity and developing more advanced offensive space capabilities (Espraza, 2018). Big powers are developing space programs and increasing their budget for defensive capabilities Nevertheless, developing such programs falls under the concept of power accumulation that may generate other states for advancing their space programs and capabilities. The advanced space programs will push other actors to develop better space capabilities with more offensive potentials that can target the opponent's space capabilities. (Defense Intelligence Agency,2019). For supporting the above, President Donald Trump said that the U.S must be the leader of the space while not allowing either China or Russia to supreme them in their space capabilities (The White House,2018). Adding to, on the day of ceremony of lunching new military branch which is Space Force, Trump said that the U.S has worked hard to develop such defensive and offensive standpoint while developing the most advanced and incredible space weapon that may attack any targeted object while overwhelming the defensive capabilities of China and Russia (Sprunt,2020). The above mentioned explains the space arms race between the space power due to the technological advancement the build-up of space advanced and offensive capabilities of different actors. Each state is keeping an arms race with its opponents due to the fear of their developed capabilities and their purposes.

The last important component is the existence of hostile intentions toward other states. Due to the anarchic nature of the international system, states can’t clearly define and predict the real intentions of their adversaries. Although determining the intentions can be hardly measured, the state's view on their national security matters defines their perception about other state's intentions (Zhang,2011). Therefore, both China's and U.S 's space policy has been driven by the

dynamics of the security dilemma since they viewed the developed technological space capabilities as a threat to their national security interests. The U.S has been highly concerned about China's real intentions when the Chinese Commander of Air Force said that developing space militarization is a historical inevitability in 2009 (Smith,2011) . Moreover, China's testing of ASAT in 2007 worried many U.S national security officials about China's real intention behind it which reflect the presence on malign intent in space arms control and space environment in general. In other words, China ASAT testing was a response to U.S strategic plan to dominate the space (Zhang,2011).

Moreover, space history itself reflects the dynamics of the security dilemma in space. Although both USSR and U.S practiced self-restraint in space politics during the cold war, they have always been concerned about the advancement of the other in space. For example, in 1968 the USSR started to test co-orbital anti-satellite as a response to U.S ASAT TEST IN 1960 (Mutschler,2010). Adding to this, the Reagan administration was highly relating national security to space superiority which led to the development of advanced ballistic missiles and deploying active defense weapons in space. (Mutschler,2010). This explains that space powers have always been in space arms race even when they ratified different treaties and agreements.

Conclusion:

The history of space militarization has witnessed enormous changed and acceleration. Starting with self-restraint practices during the cold war and ending with developing new technological space capabilities that have offensive capabilities but are not prohibited in the legal space regime.

The paper aimed to find the possible potential explanations behind why up to now there is no total prohibition on space weaponization. The most common findings have related the issue to the weak binding mechanism of the international community and its weak political well.

Moreover, many scholars argued that the U.S offensive and expansionist policy has strongly obstructed weapon prohibition. Nevertheless, the researchers concluded that the security dilemma dynamics is also another strong explanation behind it. The history of space militarization starting with the cold war reflected the existence of the security dilemma dynamics starting with the Reagan administration. Both U.S and USSR have been developing new space weapons to rebalance against each other since there is an aspect of uncertainty and common untrusty. Furthermore, the study has tested the required elements for forming the security dilemma in the space. Based on the findings. The security dilemma can strongly explain the absence of the total prohibition of space weaponization and its influence on the international community due to the veto power of the space powers. The paper proved that space politics are still regulated by the dynamics of the structural environment of the international relations which is anarchic. Moreover, the paper concluded that there is a commonly shared fear and uncertainly between the space powers regarding each other intentions which forced them to reject some of the proposed agreements on prohibiting space weaponization especially the U.S since it is highly concerned with China's advancement in space programs. Lastly, the paper summarized that space powers have always been driven by the dynamics of the security dilemma which pushed them toward continuous development of more advanced and offensive capabilities especially systems like ASAT and BDM due to the growing security vulnerability and their high dependency on space for military, economic and civilian purposes.

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