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**LEGAL DIMENSIONS OF THE  
MILITARIZATION OF SPACE: AN  
EXAMINATION OF INTERNATIONAL  
SPACE LAW**

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## *Introduction*

Space law is a complex system governing outer space activities which comprises international treaties, conventions, United Nations General Assembly resolutions, as well as rules and regulations of international organisations. This paper will lay the international legal framework of space law, examining key documents like the Outer Space Treaty (OST) of 1967. Beyond this legal framework, the paper explores the militarisation of outer space, scrutinizing the intersection between space law and the evolving military activities taking place in outer space.

### *1. International Legal Framework*

The fundamental legal framework of space law is composed of five international treaties and five sets of principles governing outer space. In addition, the UN General Assembly (UNGA) resolutions and the UN Committee for Peaceful Uses of Outer Space (UNCOPUS) documents in outer space serve as subsidiary means for interpreting and applying these treaties and principles. Customary international law also constitutes a component of space law (Xinmin, 2014).

#### *1.1 The UN Treaties*

Commencing with the fundamental legal instrument often referred to as the “Magna Carta of space”, the 1967 Outer Space Treaty (OST) underpins the existing framework (Johnson-Freese & Burbach 2019). Pertinently, the OST mandates that parties utilise the Moon and other celestial bodies for peaceful purposes, with the term “peaceful purposes” being subject to varied interpretations due to the dual-use nature of space technology for both civil and military applications (Johnson-Freese & Burbach 2019). Moreover, the treaty establishes a prohibition of the placement of nuclear weapons or other weapons of mass destruction in orbit, on the Moon, or on other celestial bodies. Notably, the OST does not preclude the weaponisation of space but specifically prohibits testing or deploying weapons of mass destruction, except on the Moon and other solid bodies, where no state has demonstrated an inclination for such placement. This may go in hand with the fact that the treaty discourages claims of sovereignty over the Moon, mandates open access to space installations and vehicles to representatives of other states and imposes liability on states for damage caused by objects launched from their territory. Moreover, according to the treaty, all parties agree to conduct outer-space activities in accordance with international law.

Turning to other treaties governing outer space activities, the Rescue Agreement has two aspects: first, the recovery and return of astronauts, and second of space objects and their components. The Rescue Agreement has some relevance to the militarisation of outer space. Astronauts engaging in hostilities during wartime lose the benefit of being treated under the Rescue Agreement. Instead, they qualify as prisoners of war under international humanitarian law (Pope, 2021). Moreover, the Liability Convention establishes a compensation regime for victims of damage caused by space objects belonging to Launching States. Nonetheless, it not only applies to the State Parties of the Convention but also to international intergovernmental organisations. To have a better perspective on the Liability Convention, the term “space object” includes the launch vehicle and its components and parts, which likely cover space debris. Meanwhile, the definition of “damage” extends to satellites and other objects that may be the targets of a space weapons attack.

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Another fundamental treaty is the Registration Convention, which builds upon the preference expressed by states in the other treaties for a mechanism to identify space objects and expands the scope and practical effect of Article 8 of the OST. It requires the “registration of objects launched into space” with the UN. Lastly, the Moon Agreement stipulates that the Moon and other celestial bodies “should be used for peaceful purposes, that their environments should not be disrupted, and that the UN should be informed of the location and purpose of any station established in those bodies” (UNOOSA, 1966). However, this last treaty had limited legal effect due to the low number of signing states.

### *1.2 UN Principles*

In addition to these treaties, the United Nations has established a series of principles of space law collected in five declarations, to regulate activities in outer space and ensure equitable and responsible use of space resources. Notably, the Declaration of Legal Principles Governing the Activities of States in the Exploration and Uses of Outer Space adopted in 1963, serves as a foundational document outlining fundamental principles for space exploration. This declaration may highlight the key principle of the peaceful use of outer space, which may be inconsistent with the militarisation of space.

Regarding the other principles, we have the Broadcasting Principles established in 1982, which govern the use of artificial earth satellites for international direct television broadcasting, emphasising the need for cooperation and responsible practices. It can also be added to the Remote Sensing Principles adopted in 1986 and seen as a relevant step in establishing a wider range of tools and cooperative measures. It provides guidelines for remote sensing of Earth from space, emphasising this technology's peaceful and beneficial applications (UNIDIR, 2013). Moreover, the Nuclear Power Sources Principles, established in 1992, address the use of nuclear power sources in outer space, focusing on safety and international cooperation. Finally, the Benefits Declaration adopted in 1996, underscores international cooperation in space exploration for the benefit of all states, particularly considering the needs of developing countries (UNIDIR, 2013).

### *1.3. Customary international law*

In the context of customary international law in space law, the development of jus cogens requires state and international court practices. Establishing jus cogens related to outer space is challenging and often linked to public interest, common international interests, and public morality. The current outer space law is built on the premise of global public interest, as evidenced in Article I OST, which suggests UNGA resolutions and OST principles possess a customary nature. These principles include non-appropriation of outer space, sovereign equality of states in outer space, freedom of use of outer space, non-installation and use of nuclear weapons and weapons of mass destruction in outer space and recognising space as the “province of mankind” (Rathore & Gupta, 2020, p.4). Another fundamental aspect of customary international law revolves around the idea of employing outer space for peaceful purposes. This principle underscores the significance of non-aggression and non-militarization, emphasizing the imperative to use outer space for the collective well-being of all nations cooperatively and harmoniously, while actively discouraging any hostile or military endeavours.

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The acknowledged *jus cogens* principles in outer space law encompass the exploration and use of outer space for the benefit of all peoples, freedom of exploration and use of outer space, and the prohibition of appropriation (Rathore & Gupta, 2020).

## *2. Overview of Military Space Activities*

Substantial progress has been made in exploring outer space since the ground-breaking launch of the first artificial satellite Sputnik-I in 1957. As advancements in space technology continue and more countries achieve new capabilities in space, the potential for tension and conflict may arise, particularly in terms of military applications. Throughout history, space has been utilised for military purposes, with early space-age militaries using space technologies for intelligence, surveillance, and reconnaissance. As space becomes increasingly integral to military operations, it has evolved into a distinct strategic domain, making militaries vulnerable to various forms of targeting. This changing landscape has led some to argue that a conflict in space is inevitable (Ramey, 2000; Zhao & Jiang, 2019), creating concerns among nations seeking to protect their space assets and posing threats to those of their adversaries. This intensified competition risks escalating tensions and conflicts in space and underscores the pressing need for updated legal regulations that adeptly navigate and address emerging challenges and actors (Blake, 2014, p.98).

Despite the achievements, the regulatory framework for space activities has failed to keep pace with advancements. Since the adoption of the Moon Agreement, there has been a notable absence of specific treaties addressing the military aspects of space endeavours or regulating potential inter-country tensions in the event of a conflict. Therefore, it is imperative to recognise that while outer space lacks national sovereignty and falls beyond national jurisdiction, it should not be perceived as a lawless frontier. Despite the relevance of the OST in space law, its applicability to contemporary military, civilian, and commercial space activities is constrained, given its Cold War-era origins with a focus on state-centric space endeavours. The United States and the Soviet Union, having witnessed uncontrollable effects from early space-age weapons tests, acknowledged the necessity of mutual restraint and committed to self-restraint to ensure continued access to space for their respective objectives. This recognition prompted the inclusion of Article IV of the OST, specifying that the Moon and all celestial bodies in space should be utilised “exclusively for peaceful purposes” (Treaty on the Principles Governing, 1967). The universally recognised principle of peaceful uses of outer space, defined as “nonaggressive” and “non-military” (Vlasic, 1991) is considered a part of customary international law in space law.

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### *2.1-Armed conflict in outer space*

In examining the militarisation of space, the absence of cohesive laws regulating military space activities is noted, resulting in unclear, inconsistent, and often overlapping policies (Tronchetti, 2015, p. 331). The intertwining of military and civilian interests in space activities poses intricate legal and operational challenges that necessitate thorough consideration and effective regulation. Considering the swift advancements in space technologies and the heightened focus on national security, the issue of space weaponisation, coupled with the potential for armed conflict in outer space, stands out as a pressing matter that cannot be overlooked (Blake, 2014, p.134; Zhao & Jiang, 2019, p.2). Armed conflict in outer space is contingent upon the advancement of space militarisation; in other words, the possibility of a conflict can become a reality only if the militarisation reaches an advanced stage capable of using force in outer space (Grego, 2021). It is essential to note that space militarisation should not be conflated with space weaponisation (Zwarte, 2018, p.354). Space militarisation refers to utilising space resources to support and enhance military capabilities. On the other hand, space weaponisation is the development and deployment of space weapons, such as anti-satellite and antiballistic missile weapons, which involves the creation and installation of armaments either in outer space or on Earth to target objects in outer space (Ramey, 2000, p.6).

Another issue regarding undefined aspects of space law is the uncertainty surrounding certain vital concepts, such as *jus bellum* and *jus in bello*. While *jus ad bellum* (the law on the use of force) and *jus in bello* (international humanitarian law or the law of armed conflict) apply to space activities, the lack of clear definitions for specific terms and scenarios in space law poses challenges (Blake, 2014, p.129). Considering Article III OST, all endeavours in space must adhere to international law, effectively extending the reach of established legal frameworks into outer space. This implies that principles governing the just use of force and the laws of armed conflict apply to space activities. However, due to the distinct nature of space compared to other settings, applying *jus ad bellum* and *jus in bello* to military acts in space is not always clear. In other words, it is difficult to define terminology and circumstances for applying ideas like the just use of force and the norms of armed conflict. Space activities can vary from communication satellites to prospective military operations, with no apparent differentiation in their conformity with these ideals. In the hypothetical situation of a government conducting an anti-satellite test to display defence capabilities, the lack of exact terminology makes it problematic to determine whether such activities violate the principles of *jus ad bellum* or *jus in bello*. Moreover, assessing proportionality in the vastness of space and addressing potential collateral damage, such as debris striking other satellites, complicates the application of these principles. This ambiguity could cause diplomatic problems, especially if nearby countries receive a threat. Resolving conflicts becomes difficult without an agreed-upon legal framework for space activities, underscoring the critical need for a comprehensive and well-defined legal structure in space law.

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## 2.2 Legal Dimensions of Conflict and Defence in Outer Space

Given the severe potential impact of armed conflicts on the rule of law in outer space, research on relevant legal issues becomes crucial. In the context of armed conflict in outer space, using ground-based or space-based weapons is considered a “use of force” under international law (Blake, 2014, p.130). The UN Charter, a fundamental element of the global legal framework applicable to all international law realms, including space law, is particularly significant. Despite being crafted before the space age, various international instruments can be adapted to accommodate evolving contexts and technological progress, justifying the incorporation of the UN Charter into matters of outer space (Ramey, 2000). The UN Charter provides explicit regulations on using force through Article 2(4)[1] and the exception in Article [2], creating a solid foundation for international law governing its use (Zhao & Jiang, 2019). Moreover, Article III of the OST[3] extends these international law principles to using power in space activities, especially during armed conflicts. While UNCOPUOS consistently opposes the right of self-defence in outer space, some argue that with space weapons capable of causing more extensive damage, states should have the right to self-defence and be allowed to take preventive measures (Blake, 2014). Although there are no specific provisions in both general international law and space law regarding the prohibition of self-defence in outer space, it can be inferred that spacefaring nations have the right to self-defence in this context. International legal norms do not prohibit asserting the right to self-defence in outer space. On the contrary, withholding this right would place spacefaring nations at a disadvantage in safeguarding national security and pursuing their interests in the outer space domain. Consequently, the right to self-defence should be deemed applicable in space activities.

[1] All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the Purposes of the United Nations.

[2] The exceptions pertain to the threat or use of force, which must align with the exercise of the inherent right of national self-defence as acknowledged by Article 51 of the UN Charter, or it must be carried out in accordance with authorization from the UN Security Council.

[3] States Parties to the Treaty shall carry on activities in the exploration and use of outer space, including the moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international co-operation and understanding.

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### *2.3 Developing New 'Legal' Frameworks*

In the dynamic space exploration arena, ongoing efforts are being made to establish regulatory frameworks for military operations in this celestial domain. A notable initiative in this endeavour is the Woomera Manual on the International Law of Military Space Operations, which stands out as a comprehensive guide designed to define legal principles governing military activities in space. Distinguished by its approach, the Woomera Manual navigates critical issues in space law, such as the definition of 'outer space' and the parameters of activities falling under the umbrella of 'peaceful purposes'. The manual's primary purpose is to elucidate the application of customary international law and treaty law in space operations. Its goal is to provide clear and comprehensive guidance for decision-makers involved in space activities, promoting peace and security in outer space. Its structure mirrors national military manuals and enhances its utility as a reference point for military operators and decision-makers, promoting international consistency and clarity. It has played a pivotal role in shaping various states' rules of engagement and national manuals. However, ongoing debates surround the role and impact of such a manual, raising a fundamental question: Do these projects constrain or legitimise warfare? Particularly pertinent concerns linger about the potential challenges a manual may pose in this domain, where activities are mandated for 'peaceful purposes',

### *3. Conclusion and the way forward*

To summarise, international law must be re-evaluated considering the dynamic character of space activities, focusing on the right to self-defence in space. The obsolete United Nations space treaties, originally drafted to address the concerns associated with weapons of mass destruction, are today inhibiting progress in the face of a rapidly expanding global space economy. Urgent action is needed to create clear rules protecting national security while encouraging international collaboration. As we negotiate the treacherous terrain of space law, we must recognise the crucial significance of rapid collaboration, research, and policy formation to secure the safety and success of future space activities. The evolution of space activities demands a proactive approach to address challenges, and the international community must work together to create a framework that balances the interests of spacefaring states while fostering the responsible use of outer space for the benefit of all.



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