



# Exploring the Significance and the Application of the Law of Neutrality in the Outer Space

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**How to cite this paper:** Livingston, K. (2024) Exploring the Significance and the Application of the Law of Neutrality in the Outer Space. *Open Access Library Journal*, 11: e11840.

<https://doi.org/10.4236/oalib.1111840>

**Received:** June 17, 2024

**Accepted:** July 26, 2024

**Published:** July 29, 2024

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## Abstract

The legal relationship between states participating in an international armed conflict (belligerents) and other states abstaining from it (neutrals) is governed by the law of neutrality, which lays out their respective rights and obligations with regard to the conduct of hostilities. Key players in the continuous shift from an industrial-based global economic order to one that is increasingly dominated by information services are satellite telecommunications, global navigation, and remote sensing technologies. Armed forces all over the world are pursuing independent space capabilities and modifying their force structures, doctrines, and strategies to match, driven by the desire to gain “information superiority” over an adversary and take control of the ultimate “high ground”—space. A number of legislative and political initiatives to outlaw the stationing and/or use of weapons in space have been spurred by these tendencies. This article contends that if humanity hopes to lessen the effects and spread of warfare carried out in, from, and through outer space, it is necessary to consult the bodies of international law specifically with regards to the law of neutrality that are already in place and are based on a pragmatic acceptance of armed conflict. These efforts have not succeeded in gaining traction, and it appears unlikely that they will in the near future. This article will explore the significance and the application of the law of neutrality as a mechanism to mediate competing claims of belligerents and neutrals during armed conflict in outer space.

## Subject Areas

Law

## Keywords

Law of Neutrality, Armed Conflict, Neutral State, Neutral Territory, Non-Belligerent States

## 1. Introduction

Today, rather than being a legal requirement, “neutrality” is understood and used as a notion of foreign policy. It simply means that you are not siding with any one group or cause over another, or that you are neutral or even apathetic to it. It also frequently has a negative meaning due to its association with political isolationism. Although the concept of neutrality as a whole may encompass a broad variety of actions, the law of neutrality has a more specific and constrained reach.

A neutral country is one that does not choose to take part in a War between other countries in the International relation.<sup>1</sup> When a country declares it is neutral, it cannot allow any part of its territory to become a base for one side. It may not construct warships, recruit soldiers or organize military expeditions on behalf of one belligerent. It is also called “armed neutrality” when declaring itself neutral during a war.<sup>2</sup> A neutral country is also different from the neutrality claimed by Non-Governmental Organizations (NGOs) or United Nations peace-keeping groups.<sup>3</sup>

First off, only sovereign states are subject to the obligations and privileges of neutrality under international law, thus there is limited obligation on non-state actors with regards to neutrality in the midst of conflict or war. Second, they are only applicable in cases where two or more states are engaged in an international armed conflict. Thirdly, they place a restricted set of duties on the state. Fundamentally, a neutral state’s primary responsibility is to abstain from providing military assistance to opposing sides in an international armed conflict.

The expanding economic and military relevance of space travel is likely one of the less well-known but significant facets of the current period of economic globalization, despite the fact that many components have garnered significant media and scholarly attention. The United States and Russia are no longer the only powers occupying space; a growing number of States are utilizing a wide range of satellites to further their own social, economic, and military objectives.

Satellite telecommunications, GPS devices, and satellite remote sensing imagery are just a few examples of the growing popularity and affordable access to space technologies that even non-spacefaring States (and ordinary persons) profit from on a daily basis [1]. Furthermore, a wide range of international economic operations are made possible by space applications, which are gradually taking on the role of global public utilities.<sup>4</sup> Similar to how railroads and steam engines significantly lowered transportation costs in the late 19th century, spurring the

<sup>1</sup>“Neutrality” *The Free Dictionary. Farlex*. Retrieved 7 October 2016.

<sup>2</sup>Elizabeth Chadwick (27 March 2004). “Neutrality” *Oxford Bibliographies*. Oxford University Press. Retrieved 7 October 2016.

<sup>3</sup>Ibid.

<sup>4</sup>See, e.g. Annex on Telecommunications to the General Agreement on Trade in Services (GATS), Article 1, WTO (Date Accessed: 8 July 2008) (recognizing the “dual role [of telecommunications] as a distinct sector of economic activity and as the underlying transport means for other economic activities”).

development of a global industrial economy, satellite telecommunications, fiber optics, computers, and the Internet significantly lower communications costs today, spurring the development of a rapidly expanding global information economy.<sup>5</sup>

States' concerns about the need to safeguard civil and commercial space systems have naturally grown as these systems become more and more crucial to sustained economic growth. Similar to how more nations developed and maintained international naval forces in the late 19th and early 20th centuries to safeguard their merchant ships on the high seas, these nations are also modifying their military tactics and capabilities in the present to safeguard the ability of their commercial and civil satellites to travel across the commons of space. Aside from the need to protect commerce, the ultimate "high ground" of outer space also offers inherent military advantages. Space applications exploiting these advantages are revolutionizing the way States conduct war.

Aside from the need to protect commerce, the ultimate "high ground" of outer space also offers inherent military advantages. Space applications exploiting these advantages are revolutionizing the way States conduct war. The combined effect of these developments, of course, is the increasing militarization of outer space and the prospect of armed conflict conducted in and through outer space. Efforts in the United Nations (UN) and the Conference on Disarmament to ban the placement and/or use of weapons in outer space have reached a diplomatic stalemate.<sup>6</sup>

Proceeding under the likely assumption that these diplomatic efforts will fail to progress, this article will explore the significance and application of the law in outer space of customary principles of international law grounded in the pragmatic recognition that armed conflict is inevitable, but must be contained to the maximum extent possible.

The law of neutrality applies once armed conflict has commenced and is intended to limit the spread of hostilities and to minimize the impact of hostilities on global trade. As we will see, the law of neutrality is not so much a collection of specific rules, but rather a flexible and dynamic set of general principles designed to serve as a mechanism to balance and reconcile competing claims of belligerents (States participating in armed conflict) and neutrals (non-participant States). Approached from this perspective, the law of neutrality may very well prove "necessary for the maintenance of global public order" in outer space.<sup>7</sup>

### 1.1. The Objectives of the Study

The objectives of study are to:

- 1) Explore the concept of the law of the Neutrality in International law.
- 2) Examine the applicability of the law of neutrality in the outer space.

<sup>5</sup>Thomas L. Friedman, *The Lexus and the Olive Tree*, xviii (New York: Anchor Books, 1999).

<sup>6</sup>See Michel Bourbonniere, "The Ambit of the Law of Neutrality and Space Security" (2006) 36 *Israel Y.B. on Human Rights* 205, 216-217.

<sup>7</sup>Bourbonniere, "The Ambit of the Law of Neutrality and Space Security", *supra* note 3 at 216.

3) Explore the significance and challenges to the development of the law of neutrality in the outer space.

## 1.2. A Brief Origin of the Law of Neutrality

The idea of neutral states during conflicts is not new; it dates back to the period of Ancient Greece and Rome.<sup>8</sup> It is predicated on the notion that some States have the right to maintain their neutrality in armed conflicts and are hence exempt from the duties of the opposing sides. The law of neutrality has changed over the ages to reflect the aspirations for global peace and security, as well as the shifting nature of international relations and state behavior.

The traditional law of neutrality emerged to address the conflicting interests of belligerent and neutral states, particularly during the eighteenth and nineteenth centuries when maritime transport gained significance to the world's economies as the means of international commerce.

The neutrality of States is currently perceived very differently by different actors. Some accuse neutral States of serving the interests of the aggressor by refusing to provide military assistance and thereby undermining efforts to restore international peace and security.<sup>9</sup> Others view neutrality positively and link the idea of military abstention to de-escalation and humanitarian objectives.<sup>10</sup> The debate revolves around arguments about what has changed, or has not changed, since the adoption of the Briand-Kellogg Pact and the entry into force of the United Nations (UN) Charter, with the known challenges of implementing collective security.

The fundamental principles of impartiality and abstention from assisting belligerents in the prosecution of warfare were developed to balance the right of neutral states to freedom of trade against the right of belligerents to defend themselves against the damage that might arise from such trade. While, since then, the law of neutrality has remained stagnant, its relevance and role has survived the fundamental normative change that the system of collective security under the United Nations (UN) has brought into force after the Second World War.

The main source of the international law on neutrality is customary international law. The traditional law of neutrality is codified in Hague Conventions V and XIII,<sup>11</sup> which remain in force and are for the most part considered as reflective of customary international law. Under the law of neutrality, the sovereign

<sup>8</sup>Poddighe E., "Neutrality, Political, Greece and Rome" (2012) *The Encyclopedia of Ancient History*.

<sup>9</sup>Kolb summarizes (already in 2018) that there is a view that "[n]eutrality is not anymore seen as having a pacificatory effect, but as an anti-social practice making it easier for the aggressor State to pursue its objectives". Robert Kolb, *International Law on the Maintenance of Peace: Jus Contra Bellum*, Edward Elgar, Cheltenham, 2018, p. 308.

<sup>10</sup>For an overview of the various justifications that are historically invoked, see e.g. Constantine Antonopoulos, *Non-Participation in Armed Conflict: Continuity and Modern Challenges to the Law of Neutrality*, Cambridge University Press, Cambridge, 2022, p. 220; James Upcher, *Neutrality in Contemporary International Law*, Oxford University Press, Oxford, 2020, pp. 213 ff.; Andrea Gioia, "Neutrality and Non-Belligerency", in Harry H. G. Post (ed.), *International Economic Law and Armed Conflict*, Martinus Nijhoff, Dordrecht, 1994, p. 56.

<sup>11</sup>Hague Convention V, *supra* note 6, arts. 3(b), 8.

territory of neutral states, including their territorial sea and airspace, is inviolable.

This means that belligerents are prohibited from engaging in war-fighting or war-sustaining efforts such as moving troops, transporting munitions or supplies, installing or using military communication stations or other apparatus in and across the territory of a neutral state. However, this fundamental principle of neutrality does not extend to the belligerent use of communication stations or apparatus, such as radio-telegraphic stations and telephone cables, established before the commencement of hostilities if these are not used for purely military purposes or if these have been opened for public use.

### 1.3. The Historical Development of the Law of Neutrality

The theory of the law of neutrality separated states into two possible categories by the end of the 18th century: belligerent states and neutral states (those unrelated and unaffected by the concerns of the belligerents).<sup>12</sup> A state of war, which was an indication or proclamation of a stance taken by one of the belligerent States rather than a factual finding, was required in order to maintain neutrality. It was not within the authority of non-participating States to judge the nature of hostilities, and a legitimate state of war was declared by one of the belligerents. In 1862, when Ecuador launched an armed campaign to liberate Peru from Spanish rule, the British Crown received a legal judgment that mirrored this as well.

“A state of peace is unaffected by neutrality, which under the law of nations refers to the neutrality of one State as between two or more States who are at war among themselves”. This implied that states may proclaim themselves at war without resorting to actual force or hostilities, or they could declare themselves at war but use force and then claim it is retaliation.<sup>13</sup>

This allowed them to avoid the application of many rules under IHL and non-participating States would not be considered neutral parties.

Conversely, non-actors lacked the legal capacity to proclaim neutrality, just as belligerents lacked the right to declare war. Therefore, a State’s capacity to maintain neutrality during conflicts depended on its strength and strategic significance. Whether a State may claim its neutrality was not a legal concern, but rather a matter of sovereign prerogative. States that were not involved in the conflict were only granted neutral status if the parties involved chose to recognize them as such through the recognition procedure.

There was a reciprocal relationship between war and neutrality during a period when states had the absolute right to go to war. An impartial state’s duty was to protect itself in exchange for the belligerent state’s tolerating neutral trade and commerce with the enemy.<sup>14</sup>

<sup>12</sup>Twiss T., *The Law of Nations, Considered as Independent Political Communities. On the Rights and Duties of Nations in Time of War* (The Clarendon Press 1875), p. 267.

<sup>13</sup>John B. Moore, *Digest of International Law* Vol. VII (US Government Printing Office, Washington DC 1907), 153.

<sup>14</sup>Williams Jr. W. L., “Neutrality in Modern Armed Conflicts: A Survey of the Developing Law” [1980] College of William & Mary Law School William & Mary Law School Scholarship Repository.

#### 1.4. The 20<sup>th</sup> Century and the Codification of the Law of Neutrality

The 1907 Hague Conventions III, V, and XIII contain the codification of the law of neutrality. The Hague Convention III defined when the law of neutrality applied, eliminating the uncertainty created by the state of war doctrine and ensuring that hostilities are not started without sufficient warning. According to Article 2 of the Convention, all non-participating States are presumed to be neutral at the start of hostilities, regardless of whether they are aware that a war is underway.<sup>15</sup>

In a similar vein, neutral States are required under Article 6 of Convention XIII to refrain from directly or indirectly providing warships, ammunition, or any type of war supplies. Even if this information is given to belligerents equally, it still violates the neutral obligation to supply it. These obligations, however, are limited to supplies provided by the State and do not apply to individual inhabitants of the neutral State. Convention V stipulates that the neutral state is not allowed to allow the belligerent state to transport troops or convoys carrying supplies or weapons over its territory. It must also forbid the installation of recruiting offices, the creation of combatant corps, or the placement of communication equipment by aggressors on its soil.<sup>16</sup>

Furthermore, in order to ensure that no party receives a benefit that the other party is not entitled to, neutral States are required by Conventions V and XIII to impose all measures and limitations impartially. Demonstrating neutrality towards all belligerent parties involved in a conflict is arguably the most fundamental aim and concept of neutrality.

“Belligerents are bound to respect the sovereign rights of neutral Powers and to abstain, in neutral territory or neutral waters, from any act which would, if knowingly permitted by any power, constitute a violation of neutrality”, according to Hague Convention XIII, which addresses the rights of neutral States.

“Similarly, Hague Convention V provides that “the territory of neutral Powers is inviolable”.<sup>17</sup>

#### 1.5. Qualified Neutrality and Non-Belligerency

The United States of America announced its neutrality in the war in 1939, the year of its commencement. But not long after, in 1940, the United States decided to support the Allies without officially intervening in war by giving Britain navy destroyers and bases. Similar to this, the Lend-Lease Act was approved by the US Congress in 1941 to give defense hardware to nations whose defense was thought to be essential to the country’s defense. The United States of America defended its stance by citing the Pact of Paris, which allowed states to embrace “qualified neutrality”, or the ability of neutral states to aid belligerent states who had been

<sup>15</sup>Upcher J., “Ch.1 Neutrality, Non-Belligerency, and the Prohibition of The Use of Force”, *Neutrality in contemporary international law* (Oxford University Press 2020).

<sup>16</sup>Articles 2, 3, 4 and 5.

<sup>17</sup>Article 1.

the victims of unlawful acts of aggression.<sup>18</sup>

As a result, there appears to have been a third class of states: belligerents, neutrals, and non-belligerents (states that did not accept neutral State duties but were not involved in hostilities). Beyond the USA's "Qualified Neutrality" stance, some academics—like Dietrich Schindler—have suggested that the law of neutrality has no legal force on states after 1945. Instead, it is a voluntary status that allows States to select between non-belligerent and neutral. The notion that neutrality is a choice seems to be rejected by state policy and declarations. Therefore, it cannot be said that an equivalent *opinio juris* followed the non-belligerency of a few States during World War II.<sup>19</sup>

For example, when the 1967 Arab-Israeli War broke out, nations like the United States and France insisted they were neutral states and were therefore subject to the law of neutrality. Similar to this, throughout the most recent hostilities, many States have refused to embrace the idea of "qualified neutrality", which the USA has proposed.<sup>20</sup>

### 1.6. The UN Charter and Its Effect on the Law of Neutrality

The UN Charter's Article 2(4) made an effort to reduce the ambiguity around the use of war terminology. It eliminated the possibility for governments to break the law by merely not declaring military operations to be wars, effectively outlawing the use of force by States. Force may only be used in accordance with the UN Charter in two situations: first, when the UN Security Council has authorized a collective security action under Chapter VII of the UN Charter, and second, in accordance with Article 51 of the UN Charter, for individual or group self-defense against an armed attack.

The law of neutrality was interpreted differently after the adoption of the UN Charter. Some authors even went so far as to claim that when the UN Charter entered into effect, all references to war or the state of war were eliminated, which eliminated not only the legal institution of war but also all related legal theories, including the rule of neutrality.<sup>21</sup>

Though there is a common consensus that the law of neutrality still applies, this viewpoint is not consistent with State practice. The fact that the law of neutrality still applies to countries despite being conditioned by the UN Charter has also been acknowledged by the International Court of Justice. For this reason, the UN Charter has altered and controlled the law of neutrality to specify when a nation may impose or renounce its neutral status.

<sup>18</sup>Schmitt MN, "Providing Arms and Materiel to Ukraine: Neutrality, Co-Belligerency, and the Use of Force" (*Lieber Institute West Point* September 19, 2022) <https://lieber.westpoint.edu/ukraine-neutrality-co-belligerency-use-of-force/>, accessed February 18, 2023.

<sup>19</sup>*Ibid* 5.

<sup>20</sup>Nasu H., "The Future Law of Neutrality" (*Lieber Institute West Point* July 19, 2022) <https://lieber.westpoint.edu/future-law-of-neutrality/>, accessed February 18, 2023.

<sup>21</sup>Lauterpacht E., "The Legal Irrelevance of the 'State of War'" (1968) 62 *Proceedings of the American Society of International Law at its annual meeting* 58.

The UN Security Council may adopt an enforcement action under Chapter VII of the Charter, which has the first impact of overriding a nation's neutral status. A State may be unable to fulfill its neutral obligations in such a scenario and may be barred from remaining neutral. For instance, when a State is operating in accordance with a UN Security Council resolution, it cannot use its neutral duty to stop troops or UN Special Forces from entering its territory.<sup>22</sup>

Secondly, States may no longer switch between being hostile and neutral, unlike in the 19th century. In the past, a state's sovereign prerogative included the decision to support and participate in war; however, the UN Charter currently governs when a state may use force. For instance, a State may only give up its neutral position in order to assist an armed attack victim in self-defense; it is not permitted to assist the aggressor State militarily.<sup>23</sup>

Furthermore, after the adoption of the UN Charter, a belligerent's recognition of neutrality is no longer significant. The acknowledgement of neutrality was solely pertinent in ascertaining the presence or absence of a state of war and confirming the applicability of mutual obligations and neutrality obligations between States. But, in order to be safe from assault, States are no longer in need of protection (in the form of a pledge from the belligerent).

### 1.7. The Characteristics of the Law of Neutrality

Neutrality has been defined "as the attitude of impartiality adopted by third States towards belligerents and recognized by belligerents, such attitude creating rights and duties between the impartial States and the belligerents". The overall object and purpose of the law of neutrality is to prevent escalation of an international armed conflict.<sup>24</sup> Accordingly, States that choose not to participate on behalf of either party to the conflict are obliged to remain impartial vis-à-vis the belligerents, to prevent or terminate any violation of their neutrality by the belligerents, and to tolerate belligerent measures taken in accordance with the law of armed conflict, including the law of neutrality. The belligerents, on their part, are obliged to respect the sovereignty and jurisdiction of neutral States and to refrain from any activity incompatible with the law of neutrality [1].

## 2. The Global Exploration of Outer Space

The past two decades have witnessed a dramatic increase in both the number of space-faring States and the commercialization of space applications. Forty-seven states have placed a satellite into orbit independently or with the launch services of others and ten states have demonstrated independent orbital launch capabili-

<sup>22</sup>Upcher J., "Ch.1 Neutrality, Non-Belligerency, and the Prohibition of the Use of Force", *Neutrality in contemporary international law* (Oxford University Press 2020).

<sup>23</sup>Ibid 5.

<sup>24</sup>Wolff Heintschel von Heinegg, "Benevolent" Third States in International Armed Conflicts: The Myth of the Irrelevance of the Law of Neutrality, in *International Law and Armed Conflict: Exploring the Faultlines: Essays in Honour of Yoram Din Stein* 543, 565 (Michael Schmitt & Jelena Pejic eds., 2007).

ty. One factor accounting for this dramatic increase is the emergence of an increasingly competitive \$2.5 billion a year commercial launch market. India and China entered the market in 2007, joining the United States, Russia, Ukraine and the European Space Agency.<sup>25</sup>

The leading commercial providers include Lockheed Martin and Boeing from the United States, Arianespace (Europe), Energia (Russia), and two private multinational consortia—Sea Launch and International Launch Services. Twenty-three of the 68 successful orbital launches in 2007 were commercial in nature, marking the third consecutive annual increase in commercial launches since 2004.<sup>26</sup> India's initial foray into the market raised the prospect of potential downward competitive price pressures—its successful launch of an Italian astronomy satellite into low Earth orbit at a price of \$11 million represented a 30% - 40% price reduction relative to charges levied by other launch providers.

China's entry into the market was heralded by its launch of Nigeria's Nigocomsat-1 communications satellite into geostationary orbit in 2007—following the launch, Chinese officials claimed it had been “commissioned to send about 30 foreign satellites into space” and had “signed several contracts offering commercial launching services for foreign satellites, including one from Venezuela”.<sup>27</sup>

China and Brazil partnered in the September 2007 launch of the optical imaging CBERS-2B satellite (China Brazil Earth Resource Satellite-2B).<sup>28</sup> Both States agreed to provide land images from the satellite to African States along with imagery processing and analysis software with the goal of enabling these States to respond to threats such as deforestation, desertification and drought. The aforementioned examples also illustrate the emerging prevalence of bilateral and multilateral space partnerships as a central enabler to the continued growth in the number of States accessing space.

## 2.1. Military Operations in the Outer Space

Space is facilitating the change of military strategy and conflict in the twenty-first century, much as space applications are helping to shift the economy from one centered on industries to one more dominated by information services. The historical axiom that “States prepare for and wage war according to their distinct natures” is reflected in this evolution.<sup>29</sup>

Only as a component of the military's infrastructure, outer space has been drawn into armed engagements on Earth. Sadly, there is now a considerable chance that this will happen, making it more likely than ever that (armed) force will be employed in space—either to attack Earth or to go through space itself. In

<sup>25</sup>Anil Penna, “India launches Israeli satellite in boost to space business” Agence France-Presse (21 January 2008).

<sup>26</sup>Futron Corporation, Launch Report (January 2008).

<sup>27</sup>“Satellite launch for Nigeria marks expansion for China's launching” Associated Press (24 May 2007).

<sup>28</sup>“China Launches 3rd Earth Observation Satellite—News Agency” (1 February 2008).

<sup>29</sup>Colin S. Gray, “The Influence of Space Power upon History” (1996) 15 *Comparative Strategy* 293, 296.

particular, satellites in Low Earth Orbit (LEO), which is 400 - 1500 km above Earth, run the risk of being destroyed by congestion, which poses a major threat to space travel. In addition to military users, a widening spectrum of commercial operators is also building and launching a large number of tiny satellites into Low-Earth Orbit (LEO) to feed the quickly expanding commercial space industry.

The US companies SpaceX, led by Elon Musk, and Jeff Bezos' Blue Origin (Amazon) have been granted rights to create constellations of more than 15,000 satellites in low-Earth orbit (LEO).<sup>30</sup> Growing space congestion poses a real risk to satellite operations, as demonstrated by the extensively studied collisions of Iridium-33 and Kosmos 2251 in February 2009, Yunhai 1-02 in March 2021, and the fragments (also a result of a knock-off) from Russia's Zenit-2 rocket, which was launched in September 1996. Though it does not seem that any obvious damage has been caused by recently observed close proximity encounters and operations, these incidents have caused military actors in space to reconsider their postures and take into consideration mechanisms for enhancing the protection of their assets—possibly through weaponization.

NATO formally recognized space as a domain for military activities in December, and France declared in 2019 that it will weaponize its space capabilities and establish a Space Force. It is well known that anti-satellite (ASAT) missiles have undergone extensive testing, and they will probably be developed more quickly as a means of bringing the logic of deterrence and denial into the space domain against adversaries who would try to take advantage of flaws in outdated space systems.<sup>31</sup>

The most recent instance of this type of demonstration occurred relatively recently, on November 15. At least 1,500 more pieces of debris have been added to the 30,000 (at least) already in space when a Russian Nudol rocket destroyed the long-defunct Russian Cosmos 1408 satellite.

General Lance Lord, who was in charge of the US Air Force Space Command at the time, succinctly described the growing importance of space to military operations in 2005. "The future of warfare is space superiority." We cannot win a war without controlling the high ground, and the high ground is space.

## **2.2. New Approaches and Theory of Information Warfare and Space-Based Assistance for Military Outer Space Operations**

The use of military space power is governed by doctrine, which offers guiding principles and authoritative guidance as well as a well-informed foundation for strategy and decision-making. As the aforementioned remark from General Lord indicates, space represents the most recent and possibly final iteration of the traditional military philosophy that encourages leaders to capture and maintain the

<sup>30</sup>David Shepardson, "U.S. FCC Approves SpaceX Satellite Deployment Plan", Reuters, 27 April 2021. See <https://www.reuters.com/technology/fcc-votes-approve-spacex-satellite-plan-official-2021-04-27/>.

<sup>31</sup>Secure World, "SWF Releases Updated Compilation of Anti-Satellite Testing in Space", 30 June 2020.

upper hand. Systems in space allow a force to be “both global and of... infinite military depth” and to “look down on friend and foe” equally<sup>32</sup> [2].

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Considering that a force is prepared, both organizationally and doctrinally, to incorporate data and space technologies into its activities,<sup>33</sup> by “achieving information superiority in terms of accuracy, relevance, and timeliness, thereby having a dramatically better awareness or understanding of the battlespace”, it is in a good position to do so.

According to US Department of Defense (DOD) doctrine, “information superiority” refers to “the operational advantage that results from one’s capacity to gather, process, and distribute information in an uninterrupted manner while taking advantage of or impeding the capacity of the adversary to do the same”. Other States are rapidly following suit, despite the US being the obvious leader in terms of technology and doctrine in developing the kind of network-centric, information-based warfare mentioned above.

“The PLA [Chinese People’s Liberation Army] has carefully absorbed and is reacting to what the US military has published on space warfare and counter-space operations”, according to one author describing the origins of China’s emerging space warfare doctrine. PLA strategists seem to be developing a doctrine of “informationalized” warfare, based on the idea that “information age warfare will come to its more intensive points in space”, despite the fact that no official Chinese doctrine or policy is available to the public. Future war must combine information, firepower, and mobility.

India is likewise well aware of the benefits of using space-based information applications into military operations and planning. Additionally, the North Atlantic Treaty Organization (NATO) is giving “Network Enabled Capability” (NEC) top priority.<sup>34</sup> In order to achieve information and decision superiority, the NATO NEC program “aims to ensure that the Alliance’s multinational forces are ‘wired’ for 21st century operations, able to share and exchange information effectively”.<sup>35</sup>

<sup>32</sup>Gray, “The Influence of Space Power upon History”, supra note 53 at 296.

<sup>33</sup>Arthur K. Cebrowski, “CNE in the Network-Centric Battlespace: Challenges for Operations and Lawyers” (1998) 76 Int’l L. Studies 1, 3. (“CNE in the Network-Centric Battlespace”).

<sup>34</sup>“Information Superiority Key to Success in Operations” News: North Atlantic Treaty Organization (30 April-2 May 2008), online: accessed: 5 June 2008.

<sup>35</sup>Paul B. Stares, *The Militarization of Space: U.S. Policy, 1945-1984*, 46 (Ithaca, N.Y.: Cornell University Press, 1987) at 46; Christopher M. Petras, “‘Eyes’ on Freedom—A View of the Law Governing Military Use of Satellite Reconnaissance in U.S. Homeland Defense” (2005) 31 J. of Space Law 81, 86.

### 3. International Law Governing Outer Space Military Operations

The Soviet Union's 1957 launch of Sputnik I marked the beginning of space exploration, which makes space law unique. Since then, space operations have not developed to the extent that state practice has produced a substantial corpus of international customary law. Instead, the recognized corpus of principles pertaining to customary law in space is restricted to the unrestricted use of space by all nations, the proscription of space sovereignty claims, unrestricted space exploration, and possibly the duty to rescue astronauts in need. These are the only principles that demonstrate the agreement required to give them the customary character—that is, the lack of opposition or contrary conduct by nations that are “specially affected”<sup>36</sup> [3].

It is vital to define the boundaries of the region before discussing the main treaties that regulate space. Put differently, what boundary separates space from air space? Unfortunately, the boundary of space is not explicitly defined by any treaty law provision. By defining space in terms of aerodynamic parameters, the US armed forces have taken a functional approach, saying that “space-based forces operate above this altitude where the effects of drag and lift are negligible, whereas terrestrial-based forces generally operate below an altitude of roughly 100 kilometers”.

On the other hand, the military of the United Kingdom observes that although opinions on the “exact vertical and horizontal extent of airspace” differ, “it can be said that, practically speaking, the upper limit to a state's rights in airspace is above the highest altitude at which an aircraft can fly and below the lowest possible perigee of an Earth satellite in orbit”.

The United Nations Committee on the Peaceful activities of Outer Space (COPUOS), a committee of 67 states that deals with space law (apart from that concerning military activities), has created five fundamental space law treaties despite disagreements over the definition of space. These collectively constitute the *corpus juris spatialis*, which is outlined below.

#### 1) Treaty Law Governing Military Activities in Outer Space

“The 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty) (hereinafter OST), with 98 States Parties and 27 Signatory States as of 1 January 2006, is the keystone treaty of space law”.<sup>37</sup>

Two of the customary concepts mentioned above are outlined in the OST. The clause found in Article I, which states that space is “free for exploration and use by all States without discrimination of any kind, on a basis of equality and in ac-

<sup>36</sup>On the nature and sources of customary international humanitarian law, see J. Henckaerts, “Study on Customary International Humanitarian Law: A Contribution to the Understanding and Respect for the Rule of Law in Armed Conflict”, Int'l Rev. of the Red Cross 87 (2005), 175 et seq.

<sup>37</sup>Uses of Outer Space, A/RES/1802 (XVII) of 14 December 1962; Declaration of Legal Principles Governing Activities of States in the Exploration and Use of Outer Space, A/RES/1962 (XVIII) of 13 December 1963; International Co-operation in the Peaceful Uses of Outer Space, A/RES/1963 (XVIII) of 13 December 1963.

cordance with international law, and there shall be free access to all areas of celestial bodies”, is the most important one from a military standpoint.<sup>38</sup> “Outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means”, is the second customary concept that is codified in Article II of OST.<sup>39</sup>

A number of other provisions of the OST address military or military-related activities in space; however, the exact applicability of the treaty during an armed conflict would depend on a number of factors, including whether or not the parties involved are belligerents, whether the specific provision is consistent with a state of armed conflict, and so on. The preambular language of the treaty, which acknowledges humankind’s interest in using space for “peaceful purposes”, is one of the most contentious.

The word “peaceful”, which also appears elsewhere in the accord, is still the subject of a heated argument. It should be understood as “non-military”, according to some analysts. According to the majority of space-faring countries, “peaceful” translates to “non-aggressive or non-hostile”.

For example, the US claims that: “Defense and intelligence-related activities are permitted under the National Space Policy for ‘peaceful purposes’, in the interest of national security and other objectives”. According to Article 51 of the UN Charter, the use of offensive space forces is permitted when using force in national or collective self-defense or when the UN Security Council has approved the use of force. This includes both counterspace and space-to-ground missions.<sup>40</sup>

Article III of the Outer Space Treaty lends support to this interpretation. It states that “State parties to the Treaty shall carry on activities in the exploration and use of outer space... in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international cooperation and understanding”.

In addition, before taking any action that “would cause potentially harmful interference with activities of other State parties in the peaceful exploration and use of outer space”, State parties are required by Article IX to “avoid... harmful contamination” of space and “undertake appropriate international consultations”.<sup>41</sup>

Below is a summary of further specific treaty restrictions on military operations and the use of force in space.<sup>42</sup>

1) Prohibition on placing weapons of mass destruction in Earth orbit, on celestial bodies, or anywhere in outer space (Outer Space Treaty, Article IV, para.

<sup>38</sup>OST, see above, Article I.

<sup>39</sup>Ibid.

<sup>40</sup>AFDD 2-2, see notes 17 and 35.

<sup>41</sup>Outer Space Treaty, supra note 139, Art. IX.

<sup>42</sup>Summary contained in Douglas S. Anderson and Christopher R. Dooley, “Information Operations in the Space Law Arena” 304, note 88, in *Computer Network Attack and International Law*, International Law Studies, Vol. 76 (Newport R.I.: Naval War College, 2002).

2).

2) Prohibition on placing nuclear weapons in Earth orbit, on celestial bodies, or anywhere else in outer space (Outer Space Treaty, Article IV, para. 1).

3) Prohibition on establishing a military base or installation on the moon or other celestial bodies (Outer Space Treaty, Article IV, para. 2).

4) Prohibition on testing of any weapons on the moon or other celestial bodies (Outer Space Treaty, Article IV, para. 2).

5) Prohibition on conducting military maneuvers on the moon or other celestial bodies (Outer Space Treaty, Article IV, para. 2) [1].

## 2) Law Governing the Resort to the Use of Force—JUS AD BELLUM under the UN Charter

The mutual relations of the treaty regulation under the United Nations Charter (the UN Charter) are one of the fundamental challenges for communicating the present normative framework of jus ad bellum, *i.e.* the international law standards governing the use of force regime and the relevant customary law.<sup>43</sup>

The foundation of jus ad bellum regulation is the forbidding norm, which is the UN concept that forbids the threat or use of armed force. This concept is also a foundational element of international law and is codified in UN Charter Art. 2.4.

“In their international relations, all Members shall refrain from threatening or using force against the political independence or territorial integrity of any state, or in any other way that would be inconsistent with the purposes of the United Nations.”

The use of force by States is “always judged twice, first with reference to the reasons [they] have for fighting, secondly with reference to the means they adopt” in accordance with international law. The concepts and regulations of international law that apply to war are known as the laws of *bello*, or *jus in bello*...<sup>44</sup> which, once in motion, regulate the conduct of war. Despite their clear conceptual similarities, these two bodies of law are different from one another and are governed by the “fundamental principle that jus in bello applies in cases of armed conflict whether the conflict is lawful or unlawful in its inception under jus ad bellum...”<sup>45</sup>

<sup>43</sup>1 UNTS VXi.

<sup>44</sup>Frtiz Kalshoven, “Laws of War”, in 4 Encyclopedia of Public international Law 316 (Bernhardt, ed; 1982). See also, Major Robert A. Ramey, USAF, and Armed Conflict on the Final Frontier: The Law of War in Space, 48 A.F. Law Rev. 1, 33 (2000).

<sup>45</sup>Adam Roberts & Richard Guelff, eds., Introduction to Documents on the Laws of War, 1 (Oxford: Oxford University Press, 1989). See also Christopher Greenwood, “Historical Development and Legal Basis” in The Handbook of Humanitarian Law in Armed Conflict 1, 10 (Oxford: Oxford University Press, Dieter Fleck, ed., 1995) (“[t]oday humanitarian law is applicable in any international armed conflict, even if the parties to that conflict have not declared war and do not recognize that they are in a formal state of war”). Greenwood’s use of the phrase “international humanitarian law” is intended to be synonymous with the older phrase “law of war” or more recent “law of armed conflict”—this law is “designed to regulate the treatment of the individual-civilian or military, wounded or active—as well as rules governing the means and methods of warfare”. Though related, the law of neutrality is distinct. Robert A. Ramey, “Armed Conflict on the Final Frontier: The Law of War in Space” 48 A.F.L. Rev. 1, 32, note 133 (2000).

The UN Charter lays out the main points of Jus ad Bellum. Founded in the aftermath of World War II, the United Nations was primarily created under the UN Charter “[t]o maintain international peace and security”. Individual and collective self-defense in line with Article 51 and collective security measures adopted by the UN Security Council in accordance with Article 42 are the only two exceptions to the general ban on the threat or use of force.

Article 39 of the Security Council mandates that it “determine the existence of any threat to the peace, breach of the peace, or act of aggression and... make recommendations, or decide what measures shall be taken in accordance with Articles 41 and 42, to maintain or restore international peace and security”. This provision establishes the Security Council’s authority over collective security policies.

Article 41 authorizes the Security Council to employ measures “not involving the use of armed force” including, but not limited to, “complete or partial interruption of... telegraphic, radio, and other means of communication...”.

According to Article 42, “the Security Council may take such action by air, sea, or land forces as may be necessary to maintain or restore international peace and security should it consider that measures provided for in Article 41 would be inadequate or have proved to be inadequate”. Such action could involve protests, blockades, and other actions carried out by United Nations members using their air, sea, or land troops.

According to Article 51 of the Charter, individual and collective self-defense constitutes the second exemption to the general ban on the use or threat of force. Article 51 stipulates:

“Nothing in the Present Charter shall impair the inherent right of Individual or collective self-defense if an armed attack occurs against a Member of the United Nations, until the Security Council has taken measures necessary to maintain international peace and security. Measures taken by Members in the exercise of this right of self-defense shall be immediately reported to the Security Council and shall not in any way affect the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary in or to maintain or restore international peace and security”.

### **State Responsibility for Terrestrial Activities**

A State is responsible for its transnational crimes under international law. Humans are naturally inclined to progress, investigate, and comprehend. Every facet of our existence, including endeavors that extend beyond Earth, demonstrates it. States have direct responsibility for the rights and obligations pertaining to space activities since they are in charge of all space operations, including satellite operations. States worked together to create the majority of the principles of space law, mostly through the United Nations. States therefore play a dual role in the creation and application of the aforementioned laws [4].

It will be more crucial than ever to precisely define and demarcate the status

and relative duties and obligations of States in outer space as the number of States and commercial entities in space keeps growing and military rely more and more on space applications during conflicts. It may eventually be possible to lessen the effects and/or spread of a specific armed conflict by having a thorough understanding of these issues, which will help resolve belligerent and neutral allegations<sup>46</sup> [1].

“A state’s territory is its castle. No one is allowed to enter it without its permission... the world resembles a series of immense airtight petroleum storage tanks representing the various national States with their three dimensional sovereignty... the arrival of the space age was as if the lid on the tank was suddenly ripped off. And, if we can change the image, it was like opening up an anthill with all the ants inside scurrying round wondering how to cover themselves and their secrets and stores”.<sup>47</sup>

It also includes activities carried out by commercial companies. Furthermore, because every space operation is regarded as a national activity, governments would be held accountable and liable in international courts for disputes involving space activities, whether they were the launching state or the host state, each with a share of duties.

### **1) State Responsibility for Non-State Actors in the Outer Space Treaty**

The 1967 Outer Space Treaty, which included 105 signatory states and 25 additional states, was the foundational agreement on space law and covered principles governing state activities in space exploration and use, including the Moon and other celestial bodies<sup>48</sup> [5].

Under Article VI, which states that States bear international responsibility for non-State actors,

“States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the Moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities of non-governmental entities in outer space, including the Moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty. When activities are carried on in outer space, including the Moon and other celestial bodies, by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and

<sup>46</sup>Commission & others, supra note 1 at Article 1 “Responsibility of a State for its internationally wrongful acts; Every internationally wrongful act of a State entails the international responsibility of that State”; Phosphates in Morocco, Judgment, [1938] PCIJ (Ser A/B) No 74 at 22 “We should look for the violation of international law—a definitive act which would, by itself, directly involve international responsibility”; Corfu Channel Case at 22, Merits, ICJ Reports 1949, referencing “State’s obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States”.

<sup>47</sup>Bin Cheng, 2004, *Studies in International Space Law*, Clarendon Press, Oxford, pp. 573, 577-578, as quoted by Gbenga Oduntan, 2012, *Sovereignty and Jurisdiction in the Airspace and Outer Space: Legal Criteria for Spatial Delimitation*, Routledge, New York, p. 269.

<sup>48</sup>Committee on the Peaceful Uses of Outer Space, Status of International Agreements relating to activities in outer space as at 1 January 2017, UNCOPOUOUS, A/AC.105/C.2/2017/CRP.7 (2017).

by the States Parties to the Treaty participating in such organization”.<sup>49</sup>

Several of these terms have been the focus of extensive research and still need to be clarified. When interpreted in the context of Article VI’s opening sentence, “responsibility” refers to two things: First, being responsible entails that a State answer to the international community for all “national activities” (a term that is similarly ambiguous) that take place in space.<sup>50</sup> Those national activities could be governmental or non-governmental (by a non-State actor) activities and, if non-governmental, could implicate multiple States such as the State of registry or “the State of the nationality of the persons involved”.<sup>51</sup>

International organizations are mentioned in the final and subsequent sentence of Article VI. This clause states that both the international organization and the participating States parties to the treaty are responsible for ensuring that the treaty is followed when the organization engages in space operations. This last sentence makes it clear that more than one State can be responsible for a single outer space entity, even though it is narrower than the first sentence because it only explicitly outlines international responsibility for compliance with the Outer Space Treaty and not for the more general international responsibility for all space actions.<sup>52</sup>

### **2) State Responsibility for Non-State Actors in the Liability Convention**

The “launching state shall be absolutely liable for damage caused by its space object on the surface of the Earth or to aircraft in flight”, according to Article II of the Convention on International Liability for Damage Caused by Space Objects (Liability Convention). “Launching State” can mean one of two things:

A State that initiates or arranges for the launch of a space object, or a State whose territory or establishment is the site of a space object launch. More than one State may therefore be deemed to be a launching State and be held accountable for a single launch if two or more non-governmental actors from different States jointly obtain the launch of a space object, or if a non-governmental actor from one State obtains the launch and pays a foreign State to launch the object on its land.

The Liability Convention is stated to “apply to any international intergovernmental organization which conducts space activities” in Article XXII. The article further states that any harm produced by the international organization will be jointly and severally accountable for the State Members of that organization who are also signatories to the Liability Convention.<sup>53</sup>

### **3) State Responsibility for Non-State Actors in the Registration Convention**

The Convention on Registration of Objects Launched into Outer Space (Reg-

<sup>49</sup>Outer Space Treaty, supra note 2 at Article VI.

<sup>50</sup>Cheng, supra note 12 at 14; Francis Lyall & Paul B Larsen, *Space law: a treatise* (Routledge, 2016) at 66-69; Krystyna Wiewiorowska, “Some Problems of State Responsibility in Outer Space Law” (1979) 7 *J Space L* 23 at 30;

<sup>51</sup>Cheng, supra note 12 at 20-22.

<sup>52</sup>Wiewiorowska, supra note 20 at 37.

<sup>53</sup>*Liability convention*, Art. XXII (3); Lachs, supra note 11 at 115.

istration Convention) is the last space treaty to take responsibility into account. Launching States are required under the Registration Convention to register space objects while they are in orbit. It employs the same concept of “launching state” as the Liability Convention and permits international intergovernmental organizations to register extraterrestrial objects in the same way as states under Article VII.<sup>54</sup>

Similar to the Liability Convention, the Registration Convention posits that numerous States may share accountability for the launch of an object into outer space. According to Article II(2) of the Registration Convention, the States must decide collectively “which one of them shall register the object?” when there are multiple launching States. Notably, Article II(2) makes reference to Article VIII (jurisdiction) of the Outer Space Treaty, which states that the States shall take into consideration the provisions of Article VIII of the Outer Space Treaty when determining which of the launching States shall register the object.

As a result, even though the Registration Convention permits several launching States, it merely seems to restrict the registering State’s authority over the item in outer space. Under this Article, different States that are in charge of an activity in space can agree among themselves as to who will register and maintain control over the object.<sup>55</sup>

## 4. The Law of Neutrality

### 1) What Is the Law of Neutrality?

The law of neutrality establishes the rights and responsibilities of belligerent states—those engaged in an international armed conflict—as well as the neutral states—those not engaged in hostilities. When war breaks out, belligerent parties are subject to the law of armed conflict. Every other state has the option to choose to remain neutral and avoid involvement in the battle, or to choose to join the fight as co-belligerents.<sup>56</sup>

It dates back centuries to a period when declaring war was a legitimate way for states to pursue their foreign policy objectives, and when some states declared their neutrality.<sup>57</sup> The law of neutrality has become increasingly ambiguous in recent times since declared war has become less common and military conflicts often contain elements of terrorism or insurrection. The right to be unaffected by wars between belligerents is maintained by neutral states.

The Hague Convention’s Articles V and XIII (1907) contain the law of neutrality, which has different applications for belligerent and neutral governments in international military conflicts. The goal of the neutrality law is to keep hostilities between belligerents limited and to a minimum so as not to dispropor-

<sup>54</sup>Convention on Registration of Objects Launched into Outer Space, 14 January 1975, 1023 UNTS 15 [Registration Convention] Art. II (entered into force 15 September 1976).

<sup>55</sup>Lyall & Larsen, *supra* note 20 at 87.

<sup>56</sup>Crawford, E. (2020). The Temporal and Geographic Reach of International Humanitarian Law. In Ben Saul, Dapo Akande (Eds.), *The Oxford Guide to International Humanitarian Law*, (pp. 57-75). Oxford: Oxford University Press.

<sup>57</sup>Thomas, Duncan & Naval War College (U.S.), *supra* note 66 at 366.

tionately disrupt international trade<sup>58</sup> [6] [7].

All governments have the right to assume neutral status in order to abstain from participating in armed conflict in accordance with customary international law. The law of neutrality imposes obligations (of impartiality and abstention) on belligerents and neutral states alike, with respect to the former (to uphold their impartiality and insist upon their inviolability), as well as rights (most notably that of inviolability). The contemporary notion of sovereignty evolved during the 19th and 20th centuries, and there was a notable rise in international trade and business at the same time that the law formed.<sup>59</sup>

## 2) The Application of the Law of Neutrality under UN Charter

Members of the United Nations are required by the UN Charter to resolve international issues amicably and to abstain from threatening or using force in their dealings with other countries.<sup>60</sup> The Charter of the United Nations imposes upon its members the obligation to settle international disputes by peaceful means and to refrain from the threat or use of force in their international relations.

In the event of a threat to or breach of the peace or act of aggression, the Security Council is empowered to take enforcement action on behalf of all member nations, including the use of force, in order to maintain or restore international peace and security.

As a result, member states may be required to support a United Nations action with elements of their armed forces, which is incompatible with the abstention requirement of neutral status. Member states are also required to refrain from aiding any nation against whom a Security Council enforcement action is directed. Member states are also required to provide assistance to the United Nations, or a nation or coalition of nations implementing a Security Council enforcement action, in any action it takes.

Similar to this, a member state can be asked to support the UN in an enforcement operation that does not involve its armed forces, which would put it in a political position that is at odds with the objectivity demanded by the conventional law of neutrality. All United Nations members retain the right to declare themselves neutral in the event that the Security Council decides against initiating an enforcement action.

## 3) Hague V in the Law of Neutrality

A neutral state's territory is inviolable according to Article 1 of the Hague Convention V, which also forbids the passing of weapons or troops across its airspace or waterways.<sup>61</sup> The rights and obligations of neutrals in land warfare are the main topic of Hague (V). It starts with the most fundamental freedom of a

<sup>58</sup>"The Law of Neutrality" (1999) 73 Int'l L Stud Ser US Naval War Col 365.

<sup>59</sup>Joshua J. Wolff, "Interrupted Broadcasts? The Law of Neutrality and Communications Satellites" (2021) 45 J Space L 239.

<sup>60</sup>UN Charter, Art. 2(4).

<sup>61</sup>Crawford, E. (2020). The Temporal and Geographic Reach of International Humanitarian Law. In Ben Saul, Dapo Akande (Eds.), *The Oxford Guide to International Humanitarian Law*, (pp. 57-75). Oxford: Oxford University Press.

neutral, which is the right to an inviolable territory that shields it from the military activities of belligerents.<sup>62</sup>

Additionally, it is forbidden for belligerents to transport soldiers, weapons, or supplies across neutral territory. A state cannot be neutral if it allows its territory to be used as a base of military operations, a haven for a belligerent, or a route for travel. It also cannot directly or indirectly engage in hostilities, nor can it offer military support to parties to the conflict in the form of personnel, supplies, or money.<sup>63</sup> A neutral state must not enter into any arrangements during peacetime that might permit the passage of a belligerent nation's armed forces or armaments through its territory during a conflict in order to preserve its objectivity.<sup>64</sup>

In times of peace, a permanent neutral would also forbid the construction of military installations on its territory.<sup>65</sup> In addition to forbidding belligerents from building and operating their own communication stations, Hague (V) mandates that neutrals take steps to prevent belligerents from establishing communication stations on their land. In particular, neutrals are not allowed to permit such uses of their territory under Article 5 (*i.e.* neutrals are required to stop belligerents from erecting and utilizing communication networks on neutral territory).<sup>66</sup>

Furthermore, neutral governments can continue their level of trade with a belligerent that existed prior to hostilities without it being covered by the law of neutrality because trade with belligerents is exempt from The Hague Conventions.<sup>67</sup> This was evident during World War II when Switzerland and Sweden persisted in supporting the war economy of the Nazi state.<sup>68</sup> However, if one belligerent is judged to be an aggressor under the current legal framework, this can be sanctioned by the Security Council. It is not necessary for a neutral state to forbid its citizens from exchanging weapons or other war equipment with a belligerent, but it is one option.<sup>69</sup>

As a result, non-neutral private trade may continue. The effective lobbying efforts of private war merchants during the Hague Conventions talks led to the creation of this exemption.<sup>70</sup> Hague (V) on international general law and accountability for non-State actors observes that neutrals are not obligated to stop the shipment or transfer of weapons or munitions to belligerents, nor are they accoun-

<sup>62</sup>Bothe, *supra* note 64 at 559 "Above all, this means that the armed forces of the parties to the conflict may not enter neutral territory. They may not in any way use this territory for their military operations, or for transit or similar purposes".

<sup>63</sup>*Ibid.*

<sup>64</sup>Brian F. Havel, "An International Law Institution in Crisis: Rethinking Permanent Neutrality" (2000) 61 *Ohio St LJ* 167.

<sup>65</sup>*Ibid.*

<sup>66</sup>Hague (V), *supra* note 76, Art. 2.

<sup>67</sup>Natalino Ronzitti, "Neutrality in Contemporary International Law" (2019) 29 *Italian YB Int'l L* 536.

<sup>68</sup>Brian F. Havel, "An International Law Institution in Crisis: Rethinking Permanent Neutrality" (2000) 61 *Ohio St LJ* 167.

<sup>69</sup>"The Law of Neutrality" (1999) 73 *Int'l L Stud Ser US Naval War Col* 365.

<sup>70</sup>Brian F. Havel, "An International Law Institution in Crisis: Rethinking Permanent Neutrality" (2000) 61 *Ohio St LJ* 167.

table for those who cross their borders to support them.<sup>71</sup>

When belligerent forces enter neutral territory, they must disarm and be detained until the conflict is resolved. Political remarks supporting or opposing a particular party have no bearing on a state's ability to remain neutral. In order to protect their neutrality, neutral governments must also oppose or repress any attempts to violate it, whether they be made with weapons (as is the case with Switzerland and Austria) or without (as is the case with Costa Rica). The need that any use of force be both reasonable and necessary applies to any defense of neutrality.<sup>72</sup>

#### **4.1. The Law of Neutrality and Military Space Operations**

##### **1) The Telecom Satellite Industry and the Neutrality Law**

Technology has always had an impact on how military strategy and tactics are developed, modified, and evolved. With the invention and widespread use of the telephone, wireless telegraphy, underwater transmission lines, and telegraph in the late 19th and early 20th centuries, this was undoubtedly the case. The ability of modern communication technologies to let commanders more effectively and efficiently exercise command and control and coordinate actions over great distances was immediately realized by belligerents.

Early assault warning systems and the transmission of military intelligence also become more practical. During the same period, these technologies also became important forces behind the growth of international trade. The drafters of Hague V sought to regulate the use of these technologies during times of war in a way that was consistent with the Convention's overarching goal of limiting the impact of war on neutral commerce, acknowledging the inherent "dual use" nature of these technologies for both civil and military purposes, as well as their unique role in enabling international commerce.

The Hague V articles that are most pertinent to our analysis are as follows:

Article 8. "A neutral Power is not called upon to forbid or restrict the use on behalf of the belligerents of telegraph or telephone cables or of wireless telegraphy apparatus belonging to it or to Companies or private individuals".

Article 9. Every measure of restriction or prohibition taken by a neutral Power in regard to the matters referred to in Article ... 8 must be impartially applied by it to both belligerents. A neutral Power must see to the same obligation being observed by Companies or private individuals owning telegraph or telephone cables or wireless telegraphy apparatus.

##### **2) Remote Sensing and the Law of Neutrality**

When it comes to its satellite navigation and telecommunications systems, a neutral State seems to uphold an impartiality requirement, but this is probably not the case when it comes to satellite remote sensing systems. When it comes to satellite remote sensing, a conventional rule of prevention seems to apply the

<sup>71</sup>Walter L Jr. Williams, "Neutrality in Modern Armed Conflicts: A Survey of the Developing Law Symposium on International Law" (1980) 90 *Mil Law Rev* 9 at 21; Tucker, *supra* note 67 at 202.

<sup>72</sup>*Ibid.*

most.

Article 47 of the Hague Rules of Aerial Warfare provides:

“A neutral State is bound to take such steps as the means at its disposal permit to prevent within its jurisdiction aerial observation of the movements, operations or defenses of one belligerent, with the intention of informing the other belligerent”.

The act of extending “aerial observation” into space is known as satellite remote sensing. From the standpoint of military intelligence, satellite remote sensing most likely falls inside the purview of Article 47’s duty of prevention because there doesn’t seem to be a functional difference between space and aerial observation. It is possible to claim that Article 47 does not apply to satellite remote sensing since it only covers actions that fall within the neutral’s “jurisdiction”, whereas satellite remote sensing takes place outside of the neutral’s territorial jurisdiction—that is, in space, or the global commons.

### **3) The Law of Neutrality and Global Navigations**

States, as one might expect, do not publicly share many specifics of their doctrines, objectives, capabilities, or plans for counter-space negation. However, in 2004 during discussions between the US and the European Union (EU) on suggested actions to guarantee the future compatibility and interoperability of the GPS and Galileo satellite navigation systems, a unique window into this realm was opened. During these talks, “[t]he European delegates reportedly said they would not turn off or jam signals from their [Galileo] satellites, even if they were used in a war with the United States”.

In response, the US “made it clear that they would attempt what they called reversible action, but, if necessary, they would use irreversible actions [against Galileo transmissions]”, according to a senior European delegate. Implicit in this conversation, though not explicitly stated, seems to be opposing perspectives on the law of neutrality as it relates to satellite navigation systems: the US arguing for a duty of abstention and the EU supporting an impartiality requirement.

As a final step, the US and EU signed a contractual contract meant to act as a “framework for cooperation between the parties in the promotion, provision and use of civil GPS and GALILEO”.<sup>73</sup> Article 11(2) of this Agreement provides that “the parties intend to prevent hostile use of satellite-based navigation and timing services while simultaneously preserving services outside areas of hostilities”.

The plain language of Article 11(2) suggests that the US won the negotiations, even though the exact scope and intent are somewhat ambiguous. The EU agreed to either block or disable Galileo signals that are available to parties involved in armed conflict with the US, or at the very least, to cooperate with US efforts to prevent the enemy from accessing Galileo signals. Naturally, the opposite is also true: the US has the same responsibility to the EU. To the extent, each Party has agreed to abstain from using their satellite.

<sup>73</sup>Agreement on the Promotion, Provision and use of Galileo and GPS Satellite-Based Navigation Systems and Related Applications, signed 26 June 2004, online: (accessed: 8 July 2008). [EU/US Agreement].

## 4.2. The Non-Space Actors in the Outer Space

Previously, the exclusive domain of superpower nations, space has become ingrained in every facet of human existence. From a metal sphere in orbit transmitting radio pulses to Earth in the late 1950s, the space industry has grown to be worth \$330 billion annually.

Since the 1980s, non-State space players have been developing and active in large amounts. The US president said in 1984 that it was in the country's best interest to have distinct international satellite communication networks in addition to INTELSATs.

Satellite telecommunications was still very profitable. Broadband, radio, and satellite television are examples of new telecommunications technologies. Profit-making businesses entered the fray, including PanAmSat, GlobalStar, SES, Iridium, and Orbcomm.<sup>74</sup> Telstar, an experimental communications satellite launched by AT&T on a NASA rocket in 1962, was the first non-State satellite in orbit. Despite the satellite's erratic performance, non-State actors would quickly rise to prominence in space.

## 4.3. The Scope of Applicability

Although there seems to be no consensus among States as to the continuing validity of the law of neutrality.<sup>75</sup> It is acknowledged that neutrality only applies *ratione materiae*—in cases of international armed conflict; *ratione personae*—to States not involved in such a conflict; and *ratione temporis*—as long as a State declines to take up arms on either side of the conflict and as long as the conflict continues. It is quite unlikely that the stance adopted here also holds true in space, *ratione loci* [7].

### 1) Ratione Materiae et Ratione Personae

While there is agreement on the limitation of the law of neutrality to situations of international armed conflict, as distinguished from non-international armed conflict, it is unsettled whether it only applies in international armed conflicts “of a certain duration and intensity”.<sup>76</sup> It is true that in a brief international military war, the law of neutrality will have very little practical application.

In such a fight, for example, it is unlikely that the rules of Convention XIII on the belligerent usage of neutral waters will apply. Regardless of the severity or length of an international military conflict, neutral territory, including neutral waters, must always be respected. To maintain the basic purpose of the law of neutrality—that is, to prevent the armed conflict from getting worse—all States that are not parties to the international armed conflict must continue to be impartial and refrain from acting in an unneutral manner.

<sup>74</sup>Stephan Hobe, “The Impact of New Developments on International Space Law (New Actors, Commercialisation, Privatisation, Increase in the Number of Space-Faring Nations)” (2010) 15 *Unif Law Rev* 869 at 872; Lyall & Larsen, *supra* note 20 at 379-380.

<sup>75</sup>See Heintschel von Heinegg, *supra* note 4, at 544-556.

<sup>76</sup>Office of the General Counsel, U.S. Department of Defense, *Law of War Manual* § 15.2.1.2 (rev. Ed. Dec. 2016) [hereinafter DOD Law of War Manual].

The *essentialia neutralitatis*, or core ideas of the law of neutrality, are therefore valid in every case of an international armed conflict. These norms control how the belligerents communicate with the states that are not at war. The *jus ad bellum* may affect the applicability of the law of neutrality, even though there isn't a status of "non-belligerency" that would allow neutral States to distinguish between the belligerents on the grounds that one of them has (allegedly) used force in violation of its UN Charter obligations.

The commonly held opinion is that "no State may rely on the principle of neutrality if the Security Council adopts binding preventive or enforcement measures under Chapter VII of the United Nations Charter—including the authorization of the use of force by a particular State or group of States".<sup>77</sup>

## 2) *Ratione Temporis*

*Ratione temporis* states that the law of neutrality is in effect until an international armed conflict is resolved, contingent upon either the "cessation of active hostilities" or "another event"<sup>78</sup> or upon "general closure of military activities". A neutral State is no longer subject to the law of neutrality's protections and obligations if it chooses to join the war as a party. It is crucial to remember that a neutral State will not become a party to the conflict simply by breaking neutral duties like the duty of impartiality. Therefore, the law of neutrality only ends when and to the extent that the neutral State uses force to stop one of the belligerents.

This could involve strikes against hostile space objects and assets that are shielded by sovereign immunity, whether they originate from Earth or space.

## 3) *Ratione Loci*

It is evident that there is little chance of the law of neutrality's applicability being maintained in space. According to states, "law of war treaties and the customary law of war are understood to regulate the conduct of hostilities, regardless of where they are conducted, which would include conducting hostilities in space. The application of the law of war to space activities is, thus, equivalent to its application to actions in other environments, including the air, sea, land, and cyber domains".<sup>79</sup>

These claims, however, do not support the conclusion that states concur on the application of the law of neutrality in space. States have not yet publicly stated whether or not the law of neutrality applies to space. The law of armed conflict may be thought of as a branch or subcategory of this theory.

The territorial sovereignty of neutral States is inseparably to the law of neutrality as outlined in Conventions V and XIII. Belligerents are required by Article 1 to uphold the inviolability of the "neutral waters" and the "territory of neutral Powers". The acts that are forbidden to belligerents pertain to behavior within the borders and sea areas of states that are not at war. The responsibilities of neutral states extend to belligerent uses of their waterways and territory as

<sup>77</sup>Amw Manual, supra note 17, r. 165; see also SAN REMO MANUAL, supra note 15.

<sup>78</sup>Convention (III) Relative to the Treatment of Prisoners of War, Art. 118, Aug. 12, 1949, 6 U.S.T. 3316, 75 U.N.T.S. 135.

<sup>79</sup>Dod Law of War Manual, supra note 29, § 14.10.2.2.

well as to other activities taking place on their soil that the neutral state is able to effectively regulate.

#### **4.4. International Territorial Sovereignty: Rights and Duties**

The law of neutrality does not apply to operations conducted in outer space, whether they are neutral or belligerent, but that does not imply it is unimportant when it comes to the conduct of hostilities there. The law of neutrality, in particular, establishes the rights and obligations of belligerent and neutral States by changing or updating the peacetime regulations that, in theory, still apply if military space operations are connected to neutral territory.

##### **1) Unauthorized Utilization of Neutral Airspace and Neutral Territory**

It is forbidden to use belligerent rights in neutral skies, neutral waters, or neutral territory. It is specifically forbidden for belligerents to establish bases of operations, engage in hostile activities, or use those territories as havens. This also applies to “any other activity effort”.

In light of this, it is against neutrality to launch combative military spacecraft from neutral ground. This restriction is in place even in the event that the neutral State is unable to exercise its territorial jurisdiction near the launch location due to a lease, status of troops, or servitude arrangement with the belligerent. The neutral State is required to take the necessary action to put an end to any violation of its neutrality when its territory, territorial waters, or national airspace are used for unlawful purposes.

##### **2) Inviolability of Neutral Territory and Neutral Airspace**

The territory of states that are neutral is inviolable, as stated in Article 1 of Convention V. According to Convention XIII, “neutral waters” are defined as “the internal waters, territorial sea, and, where applicable, the territorial waters of neutral States and are therefore included in the definition of inviolable neutral territory”.<sup>80</sup>

Although neutral airspace, or the airspace above neutral territory and neutral waters, is not covered by either Convention, neutral national airspace is nonetheless inviolable under customary international law. The prohibitions specified explicitly in Articles 2 through 5 of Convention V and Articles 1 through 5 of Convention XIII, as well as the customary prohibitions reiterated in the San Remo Manual and the AMW Manual, do not limit the inviolability of neutral territory, neutral waters, and neutral airspace. Instead, belligerents must abstain from infringing upon the territorial sovereignty of states that are neutral. This covers harm done by spacecraft to neutral territory.

##### **3) The Belligerent Utilization of Neutral Territory’s Communications Infrastructure**

According to Article 3 of Convention V, belligerents are forbidden to:

1) Use any such installation that was set up by them before to the war for only military objectives on a neutral Power’s territory, provided that it hasn’t been

<sup>80</sup>San Remo Manual, *supra* note 15, ¶ 14.

made available for the dissemination of public communications.

2) Construct a wireless telegraphy station or other equipment on a neutral power's territory in order to communicate with belligerent forces by land or sea.

In a similar vein, the construction of "wireless telegraphy stations or any apparatus for the purpose of communicating with the belligerent forces on land or sea" in neutral ports and waters is forbidden by Article 5 of Convention XIII. The phrase "or any apparatus" is sufficiently ambiguous to allow the restriction to be expanded to include the construction and operation of ground stations that control or communicate data to military space objects in neutral territory.

#### 4.5. The Significance of the Law of Neutrality in the Outer Space

First, the law of neutrality governs the sovereign actions of neutral states or their possessions and items outside of neutral territory, including government aircraft and non-commercial ships that are granted sovereign immunity. This means that, even if they are under the jurisdiction or control of a neutral state, non-governmental organizations functioning outside of neutral territory are not granted the same neutral status under the law of neutrality as they would be under a traditional formulation. A space object registered on the registry of a neutral state, for instance, would be governed by that state.

Belligerent states may begin to recognize sufficient governmental nexus to those activities and attribute them to the neutral state with the increase in governmental control or support over non-governmental activities conducted outside neutral territory in the form of foreign investment or state-owned enterprise. These activities' accessibility to parties engaged in conflict may encourage the law of neutrality's extension outside of its customary boundaries.

Second, the extent of responsibilities is predicated on the neutral state's ability to continue to clearly distinguish between its citizens' private endeavors and its public operations. For instance, while private persons' freedom of trade with belligerent states is unaffected, the duty of abstention does not apply to the export or transportation of weapons and supplies by private enterprises for the benefit of either party.

This restriction on neutral duties, which was developed under the strong influence of US neutral policy, has only been tenuously maintained because of concerns about the compatibility of declared government neutrality and the freedom of private commerce. According to Julius Stone's critical observation, the traditionally fundamental distinction between a neutral government's duty to refrain from arming a belligerent and its liberty to allow its private traders to do so has been undermined by the political, social, and economic functions of modern state governments, particularly the growth of governmental trading".<sup>81</sup>

Third, the main objective of restrictions is violation by physical act, including arming and staffing hostile acts. Neutral states now have a significantly wider range of possibilities to support belligerents due to the current increase of

<sup>81</sup>Julius Stone, *Legal Controls of International Conflict* 364 (1954). See Also Wolfgang Friedmann, *the Changing Structure of International Law* 346-348 (1964).

non-tangible means of support for hostile actions, such as the supply of data and imagery through computer networks or the use of 3D printing for the fabrication of armaments.

For example, a neutral state might transfer computer virus or weapon design data to a belligerent party in order to use 3D printing to produce weapons and military hardware. This begs the question of whether data transfer alone counts as an export or transit of weapons or supplies that is forbidden under the neutrality statute. There is a chance that belligerents will find new ways to fund their technologically sophisticated war effort, leaving neutral governments with ways to join the fight without sacrificing their neutrality and the security that comes with it. Until a belligerent state views the supporting activity as an act of hostilities directed against it, these states may maintain their neutral status.<sup>82</sup>

Furthermore, the aforementioned discussion of Article III of The Hague Convention V's broad definition makes it illegal to construct, install, and operate ground stations on neutral ground with the intention of directing or transferring data to hostile military space objects. A breach of the law of neutrality would result from the belligerent party effectively exploiting neutral territory as a base for its armed operations.<sup>83</sup>

Finally, the law of neutrality forbids the entry or passage through neutral airspace by hostile aircraft, unmanned combat aerial vehicles, or missiles.<sup>84</sup> Military spacecraft that go through neutral airspace before entering space are likewise covered by this prohibition. When this occurs, the neutral state has an obligation to stop or prevent the breach of its neutral airspace to the extent that it is able.

## 5. The Challenges and New Developments of the Law of Neutrality in Outer Space

Finally, there are some issues that, strictly speaking, are not governed by the law of neutrality, but must be briefly addressed for reasons of completeness.

### 1) Belligerent Use of Objects in Neutral Space

A matter pertaining to hostile parties using neutral space objects for military maneuvers. The issue of whether international law offers sufficiently precise guidelines for identifying the nationality of space objects is brought up by this. Regrettably, the neutral status of a space object cannot be determined by space law treaties because they do not identify nationality.

The treaties make reference to many entities, including the "launching authori-

<sup>82</sup>The loss of neutral status must not be confused with a breach of neutral obligations. The former is a conflict classification issue governed by the law of armed conflict, not under the law of neutrality: ICRC, *supra* note 5, ¶ 1083 fn 253.

<sup>83</sup>Further, the scope of Article III of The Hague Convention V as discussed above is broad enough to prohibit the erection, installation, and use of ground stations on neutral territory for controlling or communicating data to belligerent military space objects. As the belligerent party would effectively be using neutral territory as a base to conduct its military operations, such an act would be violative of the law of neutrality.

<sup>84</sup>Program on Humanitarian Policy and Conflict Research at Harvard University, *Manual on International Law Applicable to Air and Missile Warfare* (Cambridge: Cambridge University Press, 2013), r. 170.

ty”, the “launchings State”, the “jurisdiction and control” that is established by registration and is exclusive to the launching State or States, and ownership.<sup>85</sup> It has been accurately said that ownership, jurisdiction, and control may not always align, and that it can be challenging to ascertain “the legal status of a satellite as an asset of either a belligerent or neutral State”.<sup>86</sup> Furthermore, legal clarification on the matter was offered by the fact that, even if a satellite may be governed and controlled by a neutral State, its payload may be subject to independent command and control. In conclusion, the question of whether satellites and other space objects are neutral remains unresolved in the absence of “a harmonization of State practice on this issue” [8].

## 2) Entitlement to Exercise Belligerent Rights in Outer Space

Regarding the issue of whether belligerents must use only space objects that meet the requirements for military aircraft and warships in order to exercise their belligerent rights in space. This inquiry arises because the exercise of belligerent rights in air and naval combat is restricted to military aircraft and warships.<sup>87</sup>

Even if they fall within the category of State vehicles with sovereign immunity, other ships or aircraft are not allowed to use their belligerent powers. It may be necessary to restrict the exercise of belligerent rights to belligerent space objects that 1) bear the military markings of that State, 2) are operated by the armed forces of a State, 3) are manned or preprogrammed by a crew subject to regular military discipline, and 4) are commanded by a member of the armed forces if outer space is assimilated to the high seas and international airspace as a *res communis omnium* that all States are entitled to use for commercial and military purposes [4].

## 6. Conclusions

Article II of the 1967 Outer Space Treaty, which is indicative of customary international law, states that “the outer space, including the moon and other celestial bodies, is not subject to national appropriation by claims of sovereignty, by means of use or occupation, or by any other means”.<sup>88</sup> Therefore, space is seen as a *res communis omnium*, or property belonging to the entire community, in space law.

This would imply that the law of neutrality does not apply to outer space because it is strictly territorial in character and is not subject to any exercise of territorial

<sup>85</sup>Stephan Hobe, *Spacecraft, Satellites and Space Objects*, in Max Planck Encyclopedia of Public International Law 10-13 (article last updated June 2007).

<sup>86</sup>Bourbonnière, *supra* note 5, at 219.

<sup>87</sup>1923 Hague Rules, *supra* note 14, Art. 13; AMW MANUAL, *supra* note 17, r. 17. With regard to warships, this follows from the prohibition of privateering under the 1856 Paris Declaration. See also Robert W. Tucker, *The Naval Forces of Belligerents*, 50 INTERNATIONAL LAW STUDIES 38, 38 (1955).

<sup>88</sup>“Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies”, opened for signature on January 27, 1967, *United Nations Treaty Series* 610.

sovereignty. Since these provisions require belligerent parties to respect the inviolability of a neutral territory, but do not extend to protect objects that are located outside this neutral territory, it would be incorrect to apply the principle of neutrality under The Hague Conventions V and XIII to space. Therefore, space law and the regulations and tenets of general international law govern space.

There are existing number of challenges on why the law of neutrality might not be applicable in the outer space but while the law of neutrality is of continued validity with regard to belligerent uses of neutral territory and of infrastructure located therein, and judging from its essence aforementioned, thus the law of neutrality governs the sovereign actions of neutral states or their possessions and items outside of neutral territory, the extent of responsibilities is predicated on the neutral state's ability to continue to clearly distinguish between its citizens' private endeavors and its public operations and more, it will necessary to be applied in the outer space and to its military activities although its rules are predominantly linked to the territorial sovereignty of neutral States.

This article has explored the significance and the application of the law of neutrality as a mechanism to mediate competing claims of belligerents and neutrals during armed conflict in outer space.

## Acknowledgements

I would like to thank my Professor Wang for his expert advice and encouragement through this project.

## Conflicts of Interest

The author declares no conflicts of interest.

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