

# Codifying *Jus in Bello Spatialis*— The Space Law of Tomorrow

FABIO VAN LOON

## Abstract

From the 1950s to the modern day, the race for space has embodied the classical geopolitics of great power competition.<sup>1</sup> As early as 1961, 80 percent of the astronautic community's members agreed "that there are strategic areas in space which may someday be as important to space transportation as the Panama Canal is to ocean transportation."<sup>2</sup> Today, this geopolitical reality is defined by the acceleration of highly militarized space programs and a competition for outer space's strategic areas in tomorrow's ultimate high ground. In preparing for the war-fighting domain of the future, the US can and must lead in defining *jus in bello spatialis*—the law of armed conflict in space. This article assesses the current framework of international space law and recommends ways the United States can lead in enhancing today's space security and in creating tomorrow's rules of the road. The proposed approach would strengthen existing protections for astronauts and satellites in the context of military escalation, conflict, and resolution.

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With a deep-rooted history of customary space law, state activities in outer space have largely been established for the areas of research, exploration, and scientific inquiry.<sup>3</sup> The teleological origins of today's space law—namely the principles of peaceful exploration and the freedom of navigation—were candidly expressed by President Dwight D. Eisenhower in a letter he wrote to then-Soviet premier Niko-lai Bulganin in 1958. He stated, "I propose that we agree that outer space should be used only for peaceful purposes. We face a decisive moment in history in relation to this matter. . . . Should not outer space be dedicated to the peaceful uses of mankind and denied to the purposes of war?"<sup>4</sup>

President Eisenhower's commitment to cosmic peace in the opening months of the space race proved foundational to the negotiation of the historic Outer Space Treaty (OST) a decade later, the keystone of today's *corpus juris spatialis*—the body of law in space. The 1967 Outer Space

Treaty, similar to the landmark 1963 Limited Test Ban Treaty (LTBT) and 1972 Anti-Ballistic Missile (ABM) Treaty, epitomized the success of international legal cooperation. Mutual restraint, advanced through the treaty's notion of space as "the province of all mankind," effectively prevented the likely weaponization of space both during and after the Cold War.<sup>5</sup> Washington's leadership in defining and upholding the principles of international space law has since guaranteed peace in the cosmos for over 60 years, a testament to the successes of American space diplomacy and the strength of international space law.

Today, evolving security challenges in the outer space environment have placed an unprecedented strain on the stability of the international space regime. The challenges of the return to great power competition in space have been compounded by the seemingly unavoidable militarization of the cosmos. This issue has highlighted how the "customary principles of this body of law are probably neither sufficiently specific nor entirely appropriate for military action in outer space."<sup>6</sup> Filling this normative void in the spirit of national and international security must be at the center of US-led efforts to draft and define tomorrow's *jus in bello spatialis*. Ultimately, to determine tomorrow's law of war in space, strategists must pay particular attention to the normative applicability of the UN Charter, the compelling analogy of the high seas, the law of armed conflict (LOAC), and existing protections for astronauts and satellites.

### **The Applicability of the UN Charter**

Today, the UN Charter's applicability to space affairs is hardly disputed. Historical precedent includes Dutch international legal scholar Daniel Goedhuis's statement in 1967 that "international law is '*ipso jure*' [by the law itself] applicable extra-terrestrially." Further, he asserts that "the relevant rules of international law must be taken to regulate international relations wherever such relations take place."<sup>7</sup>

Evolving from historic precedent, today's international consensus stems from the customary law established by both Soviet and US leadership in the 1960s. In "Soviet Legal Views on Military Space Activities," lecturer Malcolm Russell states that "East and West both share the view that States have the same right to exercise self-defense in space that they do on earth."<sup>8</sup> This view was clearly expressed in the 2001 *Report to the Commission to Assess United States National Security Space Management and Organization*, which specifies that "a number of existing principles of international law apply to space activity. Chief among these are the definition of . . . the right of self-defense."<sup>9</sup>

The US government's most explicit support for self-defense in space as provided for in Article 51 of the UN Charter was voiced in 2002 by then-US ambassador to the Conference on Disarmament (CD) in Geneva. He argued, "Article 51 of the UN Charter makes it clear that all Member States have the inherent right of individual and collective self-defense. The global responsibilities of the United States, and the new threats facing it in today's world, require that that right be exercised both on the Earth and above it."<sup>10</sup>

While the 1967 Outer Space Treaty has forbidden the stationing of nuclear arms and other weapons of mass destruction (WMD) in space, Bruce Hurwitz argues that the treaty has "not prohibited the use of outer space *sensu strictu* [in a strict sense] for all military purposes."<sup>11</sup> In fact, by invoking the direct applicability of the UN Charter, the OST indirectly provides support for the use of force through the concept of state sovereignty. Article VIII of the treaty specifies that the state launching a space object retains jurisdiction over it regardless of its location, so "if jurisdiction is equivalent to sovereignty," then "the right of a State to defend objects under its sovereignty on earth logically extends to outer space."<sup>12</sup> Implying the sovereignty over its own installations, it seems reasonable that a state "may take appropriate steps for self-protection."<sup>13</sup> Following this logic, the foundational document of modern space law clearly affords states "the right to defend themselves in, from and through outer space."<sup>14</sup>

Through the explicit application of the UN Charter as generally accepted law (*lex generalis*) to outer space, the customary legal practice of states led Goedhuis to contend that the majority of states have accepted that, in accordance with the 1967 Outer Space Treaty, some "military activities are legal."<sup>15</sup> In this regard, international law professors Jackson Maogoto and Steven Freeland indicate that "the legal regime that governs the possible weaponization of outer space is . . . largely protective of a State's sovereign right to utilize force in self-defense."<sup>16</sup> Through the development of Earth- and orbit-based antisatellite technologies, this view has been accurately reinforced via the practice of spacefaring states, thereby cementing the norms of the Outer Space Treaty and the UN Charter into customary international space law.<sup>17</sup>

Readers must therefore note that the OST, routinely "referred to as the Magna Carta or constitution of outer space," has consistently shaped and refined state practice from its inception.<sup>18</sup> By the same token, it could also be argued that the OST was developed in parallel to the emerging customary law of the 1960s. This observation is validated by the content of the OST's provisions, largely reflecting that of the 1959 Antarctic Treaty—

particularly regarding the exploration and non-appropriation of territory. Similarly to the Antarctic Treaty, the OST reflects an international desire to prevent “a new form of colonial competition” in space, confirming the spirit originally expressed by President Eisenhower in 1958 that space must remain an environment “denied to the purposes of war.”<sup>19</sup>

### The Law of Space and the High Seas Analogy

Arms control theorists have conceived of several legal analogies to drive the debate on creating a more “elaborated normative regime” in space.<sup>20</sup> This goal was consolidated in paragraph 4 of the OST preamble, which states the desire “to contribute to broad international co-operation in the scientific as well as the legal aspects of the exploration and use of outer space for peaceful purposes.”<sup>21</sup> In an effort to respond to the threats of weaponization while operating within the realm of realistic arms control, legal experts have theorized and proposed the application of a variety of arms control analogies, the most practicable of which is the analogy to the high seas.

Today, the high-seas analogy—based on the Roman law tradition of *res communis* (the common heritage of mankind)—is a core tenet of US space strategy. Historically evolving from the successful high-seas legal regime, international space law is primarily based on the freedom of navigation and exploration. In drafting and negotiating the foundations of modern space law to incorporate the core spirit of free, unrestrained exploration, Everett Dolman notes that “the United States desperately wanted to have the prevailing notion of innocent passage as reflected in the law of the sea applied to outer space.” Further, the US did not want “to allow an upward extension of existing air law, in which territorial ownership extends upward, *usque ad coloeum* (as far as the sky).”<sup>22</sup> In fact, according to Hurwitz, “the exercise of self-defense in outer space may be viewed as analogous to its exercise on the high seas, or in any other areas where a State is taking action outside of its territory.”<sup>23</sup> While this view may find support in elements of the US national security establishment, it has not yet been established as customary law in the space environment.

Modern advocates of arms deployment in space have regularly relied on this rationale, specifically the freedom of the seas as an environment where naval power may be boundlessly projected under customary international sea law. University of Exeter professor Kubo Mačák contends that “this longstanding interpretation . . . has been reflected in the widely respected 1994 *San Remo Manual*, according to which hostile actions by naval forces may be conducted in, on, or over . . . the high seas.”<sup>24</sup> In this view, similarly

to the high seas, the UN Charter is interpreted as not providing restrictions on state activity while simultaneously providing protection for states against aggression under Article 51. The analogy to instruments of maritime law, such as the 1994 *San Remo Manual*, seeks to ensure the “peaceful purposes” of space while guaranteeing the traditional conventions of freedom of exploration and lawful military activities. Just as the authors of maritime law envisioned “peaceful purposes” for military operations, they guaranteed more or less “unrestricted military activities in the high seas.”<sup>25</sup> This invariably affected the modern form of *jus ad bellum* as to how and when navies could rightfully engage an adversary—simultaneously ushering in a distinct form of *jus in bello*. While this legal framework has proven to be a successful guarantor of peace in space for over 60 years, the waning security of the global commons leaves the largely unprotected US satellite systems “on the open seas of space” in a position of profound vulnerability.<sup>26</sup>

### The Applicability of the Law of Armed Conflict

According to the *Routledge Handbook of Space Law*, “When the use of force in space occurs, the *jus in bello*, currently called the law of armed conflict (LOAC) or international humanitarian law (IHL) applies.”<sup>27</sup> However, lacking codified legal mechanisms for the conduct of hostilities in the event of an armed conflict, the law of cosmic war remains largely to be determined.<sup>28</sup> Despite this normative impasse, two international non-governmental diplomatic initiatives, similar in nature to the 1994 *San Remo Manual*, are currently endeavoring to restate, define, and provide guidelines for the interpretation and application of international legal instruments to military operations in space. The *Woomera Manual* and the *Manual on International Law Applicable to Military Activities in Space* (MILAMOS) are leading international efforts to develop the rules of the road for an increasingly competitive space environment. In articulating and further defining the law that applies to military activities, these projects respond to the normative void of today’s *jus in bello spatialis* by contributing, as the MILAMOS website affirms, “to a future where all space activities are conducted in accordance with the international rules-based global order.”<sup>29</sup> Considering how space law has lagged the development of military space capabilities, these efforts are of crucial importance.<sup>30</sup>

Nonetheless, considering the current potential for the militarization of national space assets (both satellites and other astronautic operations), LOAC provisions remain highly relevant in the conduct of space activities. Given the extent of lethality ensured by space-based directed-energy weapons, kinetic weaponry (missiles), electromagnetic pulse (EMP), or

potentially nuclear armaments, it is imperative that legislators, diplomats, and national space agencies work toward the drafting of key *jus cogens* prerogatives. *Jus cogens*, or peremptory norms also known as matters of “compelling law,” are norms from which no derogation is permitted. These norms—typically addressing war crimes, acts of genocide, and other crimes against humanity—“reflect and protect fundamental values of the international community, are hierarchically superior to other rules of international law and are universally applicable.”<sup>31</sup>

In this regard, the most encompassing instruments of international humanitarian law—the Geneva Conventions—are highly applicable to space and are a valuable point of departure for the drafting of said *jus cogens* provisions. While terrestrial operations are hardly comparable to those carried out in space (and will remain so for the foreseeable future), the issue of war in space—and perhaps that of one entirely waged in space, however unrealistic it may seem—must be contended with.

Mačák argues that applying customary (terrestrial) *jus in bello* law to outer space would “alleviate the problem of limited applicability of some of the relevant treaty law.”<sup>32</sup> Lacking any specific references to the laws of war in space treaty law, this seems a most appropriate point of departure. Being “well established . . . that the Hague Regulations have acquired the force of customary international law,” reinforcing that the principles of customary law would help create a clearer set of conduct for peacekeeping operations, belligerents, and space diplomacy at large.<sup>33</sup>

Unlike conventional terrestrial conflict, conflict in space would rely on capital-intensive technology and a highly specialized cadre of astronautic military personnel. Therefore, it is imperative that the law of war in space develops into a highly specialized, normative regime. To this end, its drafters will likely find the normative framework of the UN Charter, the LOAC, and Geneva Conventions to be a helpful point of departure. That said, the law of space war necessitates a *lex specialis* regime, one prepared to deal with the challenges of an unprecedentedly militarized, twenty-first-century space race. The need for an updated, highly specialized legal framework is heightened by the threats of rapidly advancing ASAT technologies. Modern international initiatives such as MILAMOS and Woomera are valuable tools in refining the provisions of the powerful 1967 Outer Space Treaty and are a much-needed springboard for the drafting of tomorrow’s law of space.

Reinforcing the Outer Space Treaty’s ban on WMDs must remain a key element in informing today’s debate on the use of weapons in outer space. The bold and prescient provisions of the OST must be strengthened

and updated to best address present and future challenges. Moreover, it is important to reiterate that “updating” these arms control provisions should not be interpreted as prejudicing or limiting the use of other weapons for self-defense based on terrestrial law and tradition. In fact, maintaining the right to self-defense, while strengthening and refining the OST’s ban of WMDs, is the most effective way to address the menace of nuclear weapons in space. Efforts to reaffirm and update the OST are urgent when accounting for the devastating scope of a nuclear weapon detonated from space. According to NASA research, a space denotation could have 8 to 17 times the blast radius of a nuclear detonation on Earth.<sup>34</sup>

### **Protections for Astronauts**

Historically considered the envoys of mankind, astronauts cannot logically be considered combatants—just as military chaplains and paramedics are not in the conventional military. Maj Robert Ramey, USAF, contends that “it would simply be incongruous for one person to simultaneously constitute a combatant and an ‘envoy of mankind.’”<sup>35</sup> As noncombatants, states are “prompted by sentiments of humanity” to assist astronauts wherever possible, similarly to individuals in distress on the high seas.<sup>36</sup>

While envoys of mankind are reasonably distinguished from combatants, the distinction may become blurred in a state of war, “as there will undoubtedly be some role for military astronauts in space combat.”<sup>37</sup> Whereas astronauts have never been considered military personnel under the auspices of peaceful military exploration, current military developments require an analysis of the relevant, applicable *jus in bello* to their activities in space. In the event of hostilities, would astronauts constitute legitimate military targets? According to Mačák, “Astronauts maintain their status as ‘envoys of mankind’ and the concomitant rights unless and until they engage in conduct with a material nexus to an armed conflict.”<sup>38</sup> Their conduct as combatants would *eo ipso* (by their own account) transform them into legitimate military targets.<sup>39</sup> After all, “there is no reason the term combatant could not apply to military personnel in space just as it does to individuals on land, sea, and air if authorized to engage in armed conflict.”<sup>40</sup>

To establish the combatant status of astronauts according to the standards of the 1907 Hague Convention, astronauts must (1) “be commanded by a person responsible for his subordinates”; (2) “have a fixed distinctive emblem recognizable at a distance”; (3) “carry arms openly”; and (4) “conduct their operations in accordance with the laws and customs of war.”<sup>41</sup>

In Ramey’s view, the classification of astronauts as envoys of mankind is to be interpreted with the object and purpose of the document in which

this view is expressed, namely the OST. The view presupposing the “peaceful purposes” of space activities would be nullified inasmuch as belligerent space activities would violate the treaty. In this regard, *jus in bello* norms are certifiably applicable to astronauts who engage in nonpeaceful activities with the astronauts and/or the space assets of other states.

Therefore, in having identified the hostile acts of astronauts in a state of war, UN Resolution 2345 (XXII)—the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (herein termed the Astronaut Convention)—would be null. As stated by Canadian space legal counsel Michel Bourbonnière, “The Rescue Agreement never specifically enounces conditions of war or of use of military force. Furthermore, there is no specific mention of any intent to modify the Geneva Conventions which regulate capture.”<sup>42</sup> In this case, *jus in bello spatialis* would, like terrestrial combat, designate captured astronauts as prisoners of war. Though protected under the international humanitarian law of the Geneva Convention, they would not enjoy diplomatic immunity. This caveat would nullify the requirement of the capturing state to return captured astronauts to their launching state as required by the Astronaut Convention.<sup>43</sup> While the Astronaut Convention would cease to enjoy legal value during armed conflict, the Convention “cannot preclude a military astronaut from seeking political asylum since this is a well-established right in international public law.”<sup>44</sup> Furthermore, as in the case of a pilot having to evacuate his aircraft, future space law should provide the same protection to Airmen as stated in Article 39(1) of the 1977 Additional Protocol I to the Geneva Convention (AP I), guaranteeing that a military astronaut is not a legitimate target when piloting a disabled spacecraft toward earth.<sup>45</sup>

### **Protections for Satellites, Neutrality, and Dual-Use Technology**

In a state of war, a similar albeit different approach would apply to satellites, which would no longer enjoy immunity as they have historically been accorded by the Conference on Disarmament and Article VIII of the OST.<sup>46</sup> Similarly to astronauts, upon the opening of hostilities, satellites engaging in or facilitating military activities constitute legitimate military targets.<sup>47</sup> While satellites do assume military significance in a state of war, Article 1 of the 1977 Additional Protocol I (AP I) to the Geneva Convention underwrites the need for an attack to minimize all collateral damage.<sup>48</sup> Considering the extent of debris caused by the use of kinetic or directed-energy weaponry, potentially damaging the function-

ality of satellites belonging to third parties or those serving civilian purposes, it has been argued that states should endeavor for a soft kill, reducing collateral damage by using cyber or electromagnetic jamming technology.<sup>49</sup> Following from this concern, “ASAT attacks producing significant amounts of space debris that may affect the orbital environment for decades could be classified as a prohibited method or means of armed conflict under Art. 35 (3) of AP I, depending on the definition of the ‘natural environment.’”<sup>50</sup> In addition to violating AP I, creating excessive debris would likely “violate the obligation of due regard for the interests of other States required in the OST (Art. IX).”<sup>51</sup> The use of a highly destructive ASAT weapon, particularly a nuclear weapon, would also violate the Environmental Modification (ENMOD) Convention, which prohibits “any technique for changing—through the deliberate manipulation of natural processes—the dynamics, composition or structure of the earth, of its atmosphere . . . or of outer space.”<sup>52</sup>

Naturally, it is also in the strategic interest of the belligerent parties to reduce debris to a minimum—to decrease the chances for collision—while increasing the functionality and orbit of satellites. In conclusion, Art. 36 of AP I stipulates that states that develop and eventually adopt a new weapon are “under the obligation to determine whether its employment would be prohibited by international law.”<sup>53</sup> The employment of weaponry creating excess debris would be a clear example of such a violation.

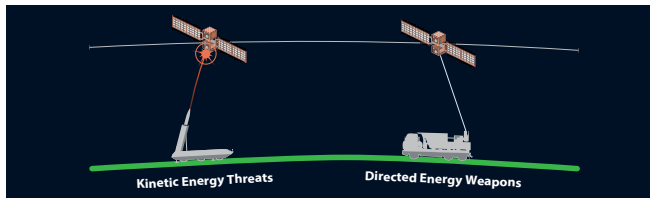
Civilian satellites are protected under Article 52(2) of AP I, expressly ruling out the possibility of “attacks and reprisals against civil objects.”<sup>54</sup> Such civilian space assets may be identified through the Registry of Space Objects, stipulated by the 1974 Registration Convention. Civilian satellites may, however, be attacked if the civilian assets are “being used to support military activity.”<sup>55</sup>

With a projected threefold increase in the number of both military and (predominately) civilian satellites launched over the next seven years, dual-use satellites concealing offensive capabilities are of ever greater concern.<sup>56</sup> The possibility of satellite jamming satellites that can evade international law and verification has become a key security issue. Civilian satellites can also be equipped with this technology—categorized as a space-stalker threat with dual-use, potentially offensive capabilities.<sup>57</sup> Such technologies include robotic arms and radio frequency jammers and lasers that, while traditionally serving as satellite maintenance and/or communications equipment, may host a range of offensive military capabilities.<sup>58</sup> Under current legal norms, seemingly peaceful capabilities, while in effect offensive in their purpose, could be easily concealed from national

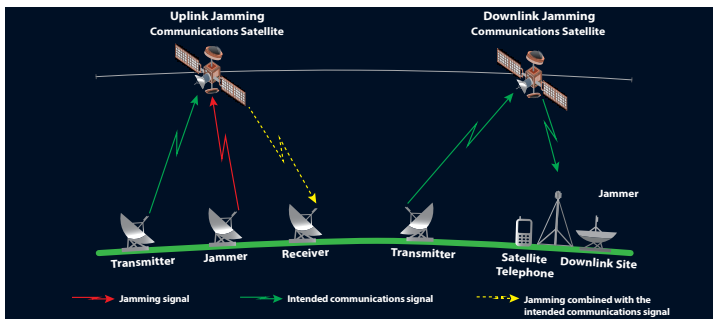
and international compliance monitoring efforts. Assuming the general immunity of civilian assets under customary law, the current state of ASAT legislation, and the Conference on Disarmament's ambitious concept of an international inspectorate, satellite verification may remain difficult if not impossible to effectively implement.<sup>59</sup>

Like the protections for astronauts in peacetime or those serving a non-belligerent or neutral state, satellites owned by a private firm or a neutral state are generally protected by immunity. However, the Hague Convention affirms that neutral states are not required to “forbid or restrict the use on behalf of the belligerents” of technology used for typically civilian purposes, such as weather or civilian communications satellites.<sup>60</sup> While this protection is generally valid for the satellites of neutral states, neutrality protections could be reasonably voided upon discovery that the neutral state supplied a belligerent with sensitive information or high-tech capabilities such as remote sensing satellite imagery.<sup>61</sup>

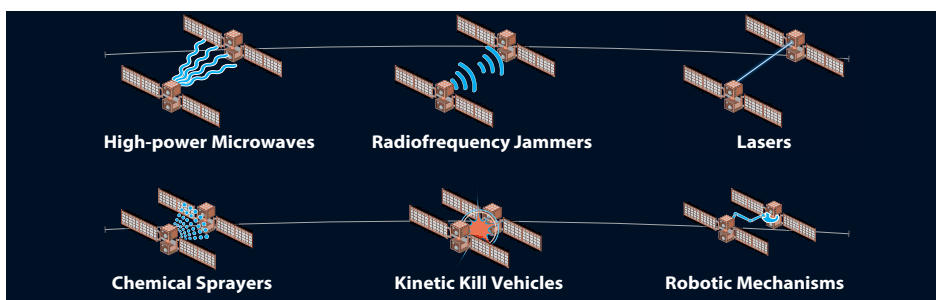
The rules of engagement are still to be determined, but attacking satellites would likely be a far more common mode of conflict than targeting astronauts. ASAT weapons include in-orbit threats (i.e., other satellites), direct-ascent land-based ICBMs, or electronic jamming from ground-based transmitters. See figures 1–3 below for a visual representation of direct-ascent attacks, electronic jamming, and a variety of orbital threats.



**Figure 1. Kinetic and directed-energy weapons.** (Reproduced from Defense Intelligence Agency [DIA], *Challenges to Security in Space* [Washington, DC: DIA, 2019], 8, <https://www.dia.mil/>.)



**Figure 2. Electromagnetic jamming.** (Reproduced from Defense Intelligence Agency [DIA], *Challenges to Security in Space* [Washington, DC: DIA, 2019], 9, <https://www.dia.mil/>.)



**Figure 3. In-orbit satellite-to-satellite threats.** (Reproduced from Defense Intelligence Agency [DIA], *Challenges to Security in Space* [Washington, DC: DIA, 2019], 10, <https://www.dia.mil/>).

As figure 3 demonstrates, a number of space-based weapons may be integrated into a satellite, effectively transforming it into a fully offensive form of dual-use technology. Another form of ASAT weaponry was explored in a 1995 study for the US Air Force, which demonstrated how high-power electromagnetic radiation (EMP) could become the future weapon against satellites in geosynchronous orbit.<sup>62</sup> The strategic employment of such zero-debris (ENMOD Convention-compliant) technology could be codified into future space law as a standard complementing the ban of more damaging (likely kinetic) ASAT weaponry.

Today, it is imperative for the US and its allies to defend themselves against satellite attacks in the hope of averting worldwide repercussions and a crippling of military readiness. Such attacks would have an immeasurable impact on civil society and the military, which depending on the extent of the attack would cause societies to *shut down*—as demonstrated by the May 1998 malfunction of the Galaxy IV satellite.<sup>63</sup> With satellites facing ever greater threats from rapidly advancing ASAT capabilities, it is crucial that Washington lead in efforts to develop tomorrow's protections for satellite technologies.

## Conclusion

In drafting today's and tomorrow's rules of the road, the United States must encourage international de-escalation while relying on an advanced defensive posture in space. Leading and negotiating from a position of strength, Washington must advance a balanced, defensive capability as “a prerequisite for a credible deterrence.”<sup>64</sup> Reminiscent of the Nixon administration's policy of *détente*, the United States must undergird its position through the enhancement of treaty verification mechanisms and the international monitoring (e.g., the International Atomic Energy Agency) of space programs, both military and civilian.

A variation of this approach was recently described by Brown University researcher Nina Tannenwald as one advancing “stabilizing military activities.”<sup>65</sup> In this approach, “stabilizing military activity (such as monitoring of arms control agreements) should be continued, while developing new weapons technologies that upset the strategic balance should be avoided.”<sup>66</sup>

Tannenwald’s notion of “stabilizing military activities” mirrors the classical notion of mutual restraint or *détente* in nuclear deterrence theory. In other words, a realistic policy objective for space peace is likely not the outright banning of weaponized systems in space (though a militarization of the cosmos should be discouraged). Rather, it is one based on the deployment of defensive capabilities necessary to enforce treaty compliance and, in the worst-case scenario, to supply a crucial response to any form of aggression. In fact, it can reasonably be entertained that the drafters of the OST did not prohibit arms deployment in space *sensu stricto* for this exact reason.<sup>67</sup> The deployment of defensive arms capabilities can serve for stabilizing (i.e., defensive) purposes as a crucial set of resources for the protection and effective guarantee of satellite immunity—a policy fundamental to upholding the prohibition of “interference with national technical means (treaty verification satellites).”<sup>68</sup> In this vein, a defensive military presence in space remains central to the preservation of peace through the verification of present and future space arms treaty compliance.


Arms treaty compliance through satellite imagery, as a form of Tannenwald’s defensive stabilization, was first introduced through the employment of national technical means (NTM) of verification used by both the US and USSR in mutual compliance verification of the 1972 ABM Treaty.<sup>69</sup> With the legal protection for NTM formally established into law through the 1991 START Treaty, military and civilian satellite immunity have proven fundamental to ensuring compliance with arms control treaties and remain as such to this day.<sup>70</sup> An enhanced protection for NTM of verification, backed by a strong defensive posture in space, will be instrumental in guaranteeing the mutual restraint discussed by both Tannenwald and Gallagher—a model that can continue to inspire the United States, Russia, and China to cooperate on space arms control.<sup>71</sup>

While this optimistic scenario may appear untenable to some, recent experience suggests that cooperation between space powers is more realistic than some strategists have suggested.<sup>72</sup> A striking example of cooperation was seen between American and Russian astronauts during the political standoff between the two countries over the 2015 Ukraine crisis.<sup>73</sup> This remarkable hallmark of international cooperation in space demon-

strates the possibility for the advancement of existing space law as well as the creation of new international legislation that underwrites the continued state practice of free and peaceful international exploration as embodied by the International Space Station (ISS). As US senator Albert Gore Sr. alluded to in 1962, acceptable space operations can indeed simultaneously be “military” and “nonaggressive.” In other words, “the test of any space activity must not be whether it is military or non-military, but whether or not it is consistent with the United Nations Charter and other obligations of international law.”<sup>74</sup> These prescient considerations are a valuable springboard for future negotiation and the maintaining of peace in the space environment.

In light of these considerations, Washington must prioritize cooperation while remaining skeptical of Chinese and Russian proposals for both a complete or partial weapons ban. A complete weapons ban was initially suggested by the two parties in a working paper submitted to the Conference on Disarmament (CD/1778) in 2006, which was followed by the proposal for a partial weapons ban in the draft 2014 Treaty on the Prevention of the Placement of Weapons in Space, aka the PPWT. While the PPWT’s calls for a partial weapons ban may seem reasonable to some, the treaty proposed a ban just for on-orbit weapons and did not address ground-based ASAT weapons—a loophole that fueled international skepticism and ultimately led to the proposed treaty’s failure. Perhaps unsurprisingly, the activities of these powers—from China’s 2007 *Fengyun 1C* satellite incident to Russia’s evolving PL-19 program—foundationally undermine their credibility in committing to a completely or even partially dewatered space environment. Referring specifically to Russia, though equally applicable to China, US Air Force attorney Christopher Petras contends that “given the extensive history of Russian military utilization of outer space under both the Soviet regime and succeeding administrations, the Russian Federation’s current musing about the demilitarization of space could reasonably be looked upon with skepticism.”<sup>75</sup> Petras is referring to Russian (and formerly Soviet) thinking from the 1980s to the early 2000s and not the PPWT. Nevertheless, proponents of demilitarization must remain aware that “a regime promoting a purely nonmilitary approach to outer space”—similarly to the weapons ban espoused in the PPWT—“would likely be purely aspirational, lacking clear definitions or compliance measures.”<sup>76</sup> In fact, “given the widespread use of space for surveillance and communication, the banning of all military activity in space is, in any case, a wholly impractical option.”<sup>77</sup>

Following these conclusions, US national security interests are most likely advanced through the crafting of a defensive American military posture supportive of mutual restraint and, most importantly, through the enhancement of international space law. Strengthening diplomatic channels through the Conference on Disarmament and other international forums of diplomacy is a first, crucial step in the establishment of a codified *jus in bello spatialis* framework. As an important venue for the negotiation of historic arms control agreements and modern-day nuclear policy, the CD can play a vital role in limiting and codifying military operations in space. Providing further specificity and codifying the conduct of military space operations in the form of new, relevant treaty law will help establish modern precedent and a path for lasting peace in the space environment. From arms control to the rules of engagement and conflict resolution, it is imperative that continued arms control efforts be made through a treaty-driven framework. Doing so will strengthen the historic OST while providing a set of solutions appropriate for the challenges of today and tomorrow.

In today's space age, the United States can and must spearhead cosmic diplomacy. After all, enhancing tomorrow's normative space security framework is the only guarantee that "the dream of yesterday is the hope of today and the reality of tomorrow."<sup>78</sup> 

### Fabio van Loon

Fabio van Loon is an independent researcher and journalist based in Washington, DC, with an interest in US space policy, European affairs, and international law. An MA candidate for the master of international policy at Texas A&M's Bush School in Washington, DC, and a graduate of LUISS University in Rome, he has had foreign policy research experiences with The Heritage Foundation, the American Enterprise Institute, and the Rome-based foreign policy review *Atlantico Quotidiano* for which he currently writes.

### Notes

1. Everett C. Dolman, *Astropolitik: Classical Geopolitics in the Space Age* (Portland, OR: Frank Cass, 2002), 147.

2. Dandridge M. Cole and Donald W. Cox, *Islands in Space: The Challenge of the Planets* (Philadelphia: Chilton Books, 1964), 147.

3. *Customary law* is best defined as a form of international law in which international obligations are based on state practice and not explicitly on written conventions or treaties, as in the case of treaty law. A norm becomes a part of customary law when it is first supported by the practice and statecraft of most recognized states and is simultaneously accepted as *opinio juris*, "denot[ing] a subjective obligation, a sense on behalf of a state that it is bound to the law in question." See Cornell Law School's *Wex Legal Dictionary*, s.v. "opinion juris," accessed 14 December 2020, <https://www.law.cornell.edu/>.

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