
Jackson N Maogoto, University of Manchester
Steven Freeland

Available at: https://works.bepress.com/jackson_maogoto/39/

Jackson Nyamuya Maogoto* and Steven Freeland**

Because of its uniquely commanding height, outer space has gained even greater military and strategic value in the post-Cold War international strategic environment. This provides for the possibility – some say probability - that outer space will become a platform for warfare. This development can only have negative consequences in the long term. As the United States pursues a policy that incorporates the placing of weapons in outer space, the other major space faring powers have not been idly sitting by. Recent advances in space technologies have put the development of space weapons within the realm of possibility for several other countries. This article seeks to revisit the intersection of the principal international treaties governing the use and exploration of outer space - primarily the Outer Space Treaty - and the United Nations Charter, in the light of contemporary developments. It outlines recent events in the emerging spaces arms race, which highlight even more the need both to emphasize the centrality of the ‘peaceful purposes’ mantra that underpins the exploration and use of space and to understand its operational rubrics and legal dynamics. It concludes by noting that the future of space security will depend on how effectively all States strive for the ‘de-weaponization’ of outer space by adhering to the peaceful purposes principle.

I. INTRODUCTION

Since its withdrawal in 2001 from the Treaty on the Limitation of Anti-Ballistic Missile Systems (ABM Treaty),1 the United States has been actively pursuing innovative military technology that it considers as essential to its decision to not only establish a national missile shield system, but to also locate important elements of the same in strategic locations overseas. This strategy has lead to a chorus of protests, particularly from the United States’ principal military competitors, Russia and China. These protests have reached a heightened crescendo, specifically from the former, as a consequence of the decision by the United States in 2006 to locate parts of the system in the former communist bloc countries of Poland and the Czech Republic, following detailed bilateral talks with these two countries.

The decision to locate interceptor missiles in Poland and associated radar systems and infrastructure in the Czech Republic2 incensed Russia, leading to a stream of caustic and even

---

* LL.B (Hons) (Moi), LL.M (Hons) (Cantab), LL.M (UTS), PhD (Melb), GCertPPT (UoN), Senior Lecturer in International Law, University of Newcastle (Australia).
** Associate Professor in International Law, University of Western Sydney (Australia); Visiting Professor of International Law, University of Copenhagen, (Denmark); Member of the Space Law Committee of the International Law Association; Member of the International Institute of Space Law.
inflammatory public comments. Seemingly fearful that the system may eventually lead to neutralization of its own strategic missiles, Russia first indicated that it may consider freezing its commitments to several arms reduction treaties, including the 1988 Intermediate Range Nuclear Forces Treaty (INF Treaty) and the 1990 Conventional Forces in Europe Treaty (CFE Treaty), then acted on its threat by withdrawing, thus setting the stage for a potential arms race.

The mounting tensions between Moscow and Washington came to a head on 29 May 2007, when Russia successfully tested a new intercontinental ballistic missile — the RS-24 — capable of penetrating American missile defenses.\(^3\) Russia’s military noted that the missile had successfully hit its target 3,400 miles away in Kamchatka peninsula, on Russia’s Pacific coast.\(^4\) In the aftermath of the announcement, Russia’s hawkish first deputy prime minister, Sergei Ivanov noted with satisfaction that in terms of defense and security, Russia could look calmly to the future. His statement hinted at a new Cold War-style arms race.\(^5\)

At the same time, China has been rapidly consolidating its status as a space power, ratcheting up the stakes very significantly with the successful test of an anti-satellite weapon. In January 2007, the Chinese military launched a KT-1 rocket that destroyed a redundant Chinese Feng Yun 1-C weather satellite, which it had launched in 1999, in Low Earth Orbit approximately 800 kilometres above the earth.\(^6\)

These developments indicate a rapidly expanding perception among the major powers of the need for space-based systems in support of military operations. This perception is being translated into reality by the very significant resources now devoted by each of them to the development of ever-more effective (and potent) space-related weaponry. Without wishing to appear melodramatic, the prospect of a celestial war can no longer be regarded as mere fantasy. Just as States have already been undertaking what might be termed ‘passive’ military activities in outer space since the advent of space technology, outer space is now increasingly being used as part of active engagement in the conduct of armed conflict.\(^7\)

The increasing militarization and weaponization of outer space poses difficult legal questions and also represents a clear and present danger to international peace and security. There is already a fear of an arms race being undertaken in space, with the latest developments in Washington, Moscow and Beijing adding further fuel to that fire. With the world’s major powers increasingly


\(^4\) Alexander Pikayev, an arms control expert and senior analyst at the Moscow-based Institute for World Economy and International Relations, said the development of the missile had probably been inevitable after the Bush administration unilaterally withdrew from the Soviet-era anti-ballistic missile treaty in 2002, preventing the Start-II treaty from coming into force. The treaty banned missiles with multiple warheads. Harding, ‘Russian Missile Test’, id.

\(^5\) Russia’s first deputy prime minister, Sergei Ivanov, said the country had tested both a new multiple-warhead intercontinental missile, the RS-24, and an improved version of its short-range Iskander missile. Harding, ‘Russian Missile Test’, id.


reliant for their security on space assets, Russia and China are keen to cement their place as space superpowers as counterweights to the United States.

With the major space-faring powers focusing ever more on the military use of space to consolidate their respective strategic strength, a consideration of the issue of space weaponization has moved far from the once theoretical discussion debated by the early founders of the current international space law regime. Given the increasing global reliance on space systems, and increasing militarization and weaponization of outer space, its evolution into a distinct theatre of military operations appears increasingly imminent. Several commentators have gone even further and opined that space warfare is, in fact, inevitable and cannot be avoided.8

As the United States pursues a policy that incorporates the placing of weapons in outer space, the other major space faring powers have not been idly sitting by. Recent advances in space technologies have put the development of space weapons within the realm of possibility for several countries.9 This article seeks to revisit the intersection of the principal international treaties governing the use and exploration of outer space – primarily the Outer Space Treaty - and the United Nations Charter, in the light of contemporary developments. It outlines recent events in the emerging spaces arms race, which highlight even more the need both to emphasize the centrality of the ‘peaceful purposes’ mantra that underpins space use and to understand its operational rubrics and legal dynamics.

II. CONTEMPORARY DEVELOPMENTS—IS SPACE WARFARE A REALITY?

In September 2002, the United States Administration issued a landmark national security policy paper that emphasized the need for: ‘Innovation within the armed forces [which] will rest on experimentation with new approaches to warfare, strengthening joint operations, exploiting U.S. intelligence advantages, and taking full advantage of science and technology.’10 As an integral part of this policy, the Pentagon believed it was necessary to maintain technological supremacy so as to ‘dominate the space dimension of military operations’11. The paper went on to note that this encompassed: ‘the ability to defend the homeland, conduct information operations, ensure U.S. access to distant theaters, and protect critical U.S. infrastructure and assets in outer space.’12

A measure of how far space weaponization and militarization has progressed is readily apparent in the establishment by the United States Air Force (USAF) of a space directorate to oversee the operations of two activated space squadrons: the 76th Space Control Squadron and the 527th Space Aggressor Squadron.13 Thus, the world’s current sole superpower now has in place a space

---

8 For example, Iole M De Angelis, ‘Legal and Political Implications of Offensives Actions from and against the Space Segment’ 45 Proceedings Of The Colloquium On The Law Of Outer Space 197 (2002).
force organized as a component of its Army, Navy, and Air Force, and falling under the overall control of United States Space Command (USSPACECOM).\textsuperscript{14}

The significance of space assets and the focus of the United States on military activities in space was amplified on 31 August 2006, when the US President, George W Bush Jr., authorized a new national space policy that centralizes space as a pivotal aspect of its military operations.\textsuperscript{15} In an indication of the importance that the US accords to the military and security aspects of space technology, the policy emphasizes that its space capabilities are ‘vital to its national interests’ and that it will ‘take those actions necessary to protect’ these capabilities. Moreover, it goes on to assert that ‘[p]roposed arms control agreements and restrictions must not impair the rights of the [United States] to conduct … activities in space for U.S. national interests.’ This approach has, almost inevitably, elicited a similar and countervailing response from other major space-faring nations, giving rise to a dangerous momentum that currently shows no signs of abating.

With China ascendant in the 21\textsuperscript{st} century, the space-technology rivalry (particularly its military utility) among the space powers is intensifying.\textsuperscript{16} It is to be remembered that, in 2000, China unveiled an ambitious 10-year space program.\textsuperscript{17} While one of the strongest immediate motivations for this program appears to be political prestige, China’s space efforts are almost certainly also geared to contribute to improved military space systems.\textsuperscript{18} With the United States actively pursuing a National Missile Defense program, in 2003 a Chinese military official commented that China’s army had already introduced the concept of ‘space force strength’,\textsuperscript{19} an apparent reference to a similar United States military concept.\textsuperscript{20} It is of significance that the

\begin{itemize}
\item \textsuperscript{19} Id.
\item \textsuperscript{20} In 1998 of the United States Space Command (‘USSPACECOM’) released details of its Long Range Plan outlining the US military vision for control of space and developing a capacity to project force from space. The first two mission statements of USSPACECOM’s Long Range Plan are pointed: ‘space support’ and ‘force enhancement’ meaning the use of space assets to facilitate military operations of combat forces on land, sea, and air. The next two mission statements: ‘space control’ and ‘force application’ are more controversial as they suggest the weaponization of space, and are most closely related to combat in a future theatre of military space operations. Overall these four mission areas encapsulate ‘space control’: U.S. Space Command, Long Range Plan: Implementing Usspacecom Vision For 2020 (1998). More significant was its sister document issued in 1999 by US Department of Defense (‘DoD’) which expanded upon, and reinforced themes raised by USSPACECOM’s Long Range Plan. Among other space issues, the DoD policy states: ‘Purposeful interference with US space systems will be viewed as an
Chinese space program has continually been under the command of senior officers of its military—the People’s Liberation Army.²¹

Space superiority – if in fact it is truly achievable – would ensure the freedom to operate in the space medium while denying the same to an adversary and, like air superiority, cannot be taken for granted.²² The United States Air Force (‘USAF’) believes that seizing control of the ‘final frontier’ is essential for modern warfare, noting that ‘space superiority provides freedom to attack as well as freedom from attack. Space and air superiority is now deemed crucial in any military operation’.²³ In this regard, the concept of counterspace operations that has been articulated is premised on the notion of destroying enemy satellites in the event of combat to improve the chances of victory.²⁴

These stark reminders of the military aspects of space technology raise questions of international law and the current legal regime regulating the military uses of outer space. With the United States determined to significantly increase its space militarization and weaponization program and Sino-Russian cooperation, in the form of a formal ‘strategic partnership’, on the rise, it is imperative that the international community act sooner rather than having to react later to the ominous possibilities raised by the deployment of sophisticated space weapons systems.

III. LEGAL CONFLUENCE—ROOM FOR TWO?: THE LINK BETWEEN THE OUTER SPACE TREATY AND THE UNITED NATIONS CHARTER

In 1957, humankind ascended into space with the launch of Sputnik I by the Soviet Union, and the successful nuclear detonations in space by the United States.²⁵ In 1961 the Soviet Union launched the first manned spaceflight when it placed Yuri Gagarin into orbit. Concerned that this development marked the start of a new dimension in space activities against the background of the potential military advantages offered by outer space in the Cold War confrontation between the then superpowers, in the same year, the General Assembly recommended that international law and the United Nations Charter²⁶ should apply to ‘outer space and celestial bodies’.²⁷

Two years later, this was repeated in General Assembly Resolution 1962(XVIII),²⁸ which set out a number of important principles that were ultimately embodied in the Treaty on Principles

²³ Id.
²⁴ Id.
²⁵ A Tass news agency announcement of 27 August 1957 which reported the successful test of the Soviet ICBM also included reference to ‘a series of explosions of nuclear and thermonuclear (hydrogen) weapons... set off at great altitudes’: M. McDougal, H. Lasswell & I. Vlasic, Law and Public Order in Space, at 389 (1963), (Yale University Press: New Haven).
²⁷ G.A. Res. 1721 (XVI), para. 1(a), (20 December 1961).
Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies (‘Outer Space Treaty’). Specific reference in the Outer Space Treaty to the United Nations Charter was important—article III provides that activities in the exploration and use of outer space shall be carried out ‘in accordance with international law, including the Charter of the United Nations’—given that the maintenance of international peace and security is the underlying principle of the system established under the United Nations Charter. It was assumed that, through the application of article III of the Outer Space Treaty, the prohibition on the use of force contained in article 2(4) of the Charter, which represents a crucial element in the regulation of international relations, would be equally applicable to the use of outer space.

Article 2(4) of the United Nations Charter prohibits the ‘threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations’. The scope of this prohibition remains hotly contested even today. The prevailing view is that this provision is an absolute bar to the use of force, with the sole exceptions being self–defence (but only to the extent specified in article 51 of the United Nations Charter) and authorisation by the United Nations Security Council acting under Chapter VII of the United Nations Charter, which comes into play when the United Nations Security Council has ‘determine[d] the existence of any threat to the peace, breach of the peace, or act of aggression’.

Under the Outer Space Treaty, while the principle of self–defence remains intact, the method of that defence is limited. However a wide range of military activity may still fit under the self–defence umbrella. Of significance with regard to the use of force is the reference in article III of the Outer Space Treaty to the United Nations Charter (including article 51) and, in particular, its express preservation of the right of States to use outer space in self–defence. Article III provides perhaps the clearest indication that the international laws of war, now more generally referred to as international humanitarian law (jus in bello), as well as those regulating the use of force (jus ad bellum), will apply to space warfare:

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

30 The first ‘Purpose’ of the United Nations specified in United Nations Charter art. 1, para. 1 begins with the words: ‘To maintain international peace and security …’
31 Article 2(4) of the United Nations Charter provides: ‘All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations.’
32 United Nations Charter, art. 2(4).
33 United Nations Charter, art. 39. Article 42 of the United Nations Charter provides: Should the Security Council consider that measures provided for in Article 41 [‘not involving the use of armed force’] would be inadequate or have proved to be inadequate, it may take such action by air, sea, or land forces as may be necessary to maintain or restore international peace and security. Such actions may include demonstrations, blockade, or other operations by air, sea, or land forces of Members of the United Nations.
Two significant observations arise from this provision. First, article III applies the restrictions of all international law to outer space activities (‘in accordance with’). As products of ‘international law’, this includes all applicable provisions of the *jus ad bellum* and the *jus in bello*. As far as its principles will apply to future technologies, the laws of war have been incorporated into military space operations by virtue of the *Outer Space Treaty*.\(^{35}\) It is therefore important to note that the interpretation of the *jus ad bellum* and *jus in bello* principles, both conventional and under customary international law, are not to be regarded as ‘static’. This is particularly so given that the means, methods and underlying context of warfare are constantly changing and, even more broadly, armed conflicts continue to occur despite all efforts of the international community to prevent them.

As a consequence of the need to adapt the applicable law to meet changing circumstances, the mere fact that weapons technology has developed in ways that may not have been contemplated by the drafters of the relevant instruments does not necessarily mean that the legal principles specified in those treaties are not applicable to their use. As the International Court of Justice noted, when considering principles of *jus in bello* in the *Legality of the Threat or Use of Nuclear Weapons* (Advisory Opinion), adopting the written statement submitted by New Zealand:

> international humanitarian law has evolved to meet contemporary circumstances, and is not limited in its application to weaponry of an earlier time. The fundamental principles of this law endure: to mitigate and circumscribe the cruelty of war for humanitarian reasons.\(^{36}\)

In this regard, one specific area where weapons technology has developed very significantly in recent years involves the military uses of outer space. Even so, it is generally regarded by most commentators that the fundamental principles of the *Outer Space Treaty* apply to this technology, even though such developments may not have even been in the contemplation of the drafters of that treaty. This question is not particularly controversial. The difficulty, however, as discussed below, is precisely how the existing principles within the *Outer Space Treaty* impact upon the actions of those military powers intent on shoring up and developing their respective space military capabilities. A second relevant observation relates to the requirement that a State’s exploration and use of outer space be ‘in the interest of maintaining international peace and security’, a cornerstone of the United Nations Charter.

**Cyber Warfare as a Use of Force**

Under article 2(4) of the United Nations Charter, States may neither use force in the course of their international relations, nor threaten to do so. Historically, defining the precise meaning of the ‘force’ prohibited by the Charter, particularly given the many sources of pressure (including economic, political, military etc), nations may use in their relations with each other, has always been difficult. However it is widely recognized that the prohibition does not extend to many

---


forms of non-military physical force, but encompasses both direct and indirect military force. In this regard Major Ramey notes:

Given the fact that space warfare will require new application of existing legal regimes, if not new regimes altogether, new means and methods of using force will also give rise to new means of making threats, including those from space.  

It is not difficult to conceive of scenarios in which the use of armed force in space would potentially cause ‘harmful interference’ to other States Parties in their peaceful exploration and use of space, possibly also bringing into play the ‘consultation’ requirements specified in article IX of the Outer Space Treaty. For example, the recent Chinese ‘killer missile’ test would have led to a significant amount of space debris being created from the destruction of the redundant weather satellite, which has the potential to adversely effect the space activities of other States (as well as possibly giving rise to a claim for damages under the Convention on International Liability for Damage Caused by Space Objects (Liability Convention)). These are crucial questions, all the more so because they are of practical relevance rather than remaining in the realm of mere academic curiosity considering, for example, that USSPACECOM’s long-range plan encompasses space control articulated as: ‘…the ability to ensure un-interrupted access to space for U.S. forces and our allies, freedom of operations within the space medium and an ability to deny others the use of space, if required.’ Translated into legal terms, attempts to ‘ensure un-interrupted access to space’ and to maintain ‘an ability to deny others the use of space’ are expressions encompassing military force, or at least the threat thereof.

Naturally this strategy has a number of worrying consequences, not the least of which is to ‘encourage’ other major space faring powers to focus on their own military technology in order to (attempt to) keep on par with the United States. This has a ‘snow-ball’ effect, with the tendency of the United States and other major militarized powers to rely ever increasingly on space technology potentially spiraling into a space weapons race, despite the best diplomatic efforts of

---

39 Article IX of the Outer Space Treaty provides, in part:

... If a State Party to the Treaty has reason to believe that an activity or experiment planned by it or its nationals in outer space, including the Moon and other celestial bodies, would cause potentially harmful interference with activities of other States Parties in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, it shall undertake appropriate international consultations before proceeding with any such activity or experiment. A State Party to the Treaty which has reason to believe that an activity or experiment planned by another State Party in outer space, including the Moon and other celestial bodies, would cause potentially harmful interference with activities in the peaceful exploration and use of outer space, including the Moon and other celestial bodies, may request consultation concerning the activity or experiment.
42 Id.
the international community to prevent this. Even though the United States may currently be in a position to claim space superiority, it can only be a matter of time before other space-faring countries – perhaps China and India – will have developed equally sophisticated (and potentially devastating) space weapons technology. Indeed, the recent Chinese test seems to indicate that we are already approaching that point.

One of the fundamental principles of international space law, as embraced by article IV of the Outer Space Treaty as well as article 3 of the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Moon Agreement), is that space will be used for ‘peaceful purposes’. As discussed in the following section of this article, the meaning of this phrase within the context of the principal space treaties is not straightforward. In relation to its context within broader *jus ad bellum* principles, to the extent that ‘non–peaceful’ means the aggressive use of force, such uses are prohibited by the United Nations Charter when undertaken by a State. Article 3 of Resolution 3314 enumerates specific acts that amount to acts of aggression ‘regardless of a declaration of war’. The text of the Resolution makes it clear that it is intended to serve as a guide to the Security Council in determining the existence of aggression under article 39 of the Charter and not as a definition of ‘armed attack’. Nevertheless, if an ‘armed attack’ is understood to be a type of aggression that justifies self–defence under article 51—that is, *une agression armée* (or ‘aggression which is armed’)—then the definition of aggression in the Resolution and the specific acts of aggression enumerated in article 3 are at least illustrative of the types of circumstances where recourse to self–defence is vindicated.

The scope of article 51 of the United Nations Charter is also itself under consideration in several quarters, giving rise to a discussion on what the ‘inherent right’ of a State to use force in self-defence once ‘an armed attack occurs really means. Recent events, as well as assertions by a number of States of the existence of a ‘pre-emptive strike’ doctrine of force in response to the (perceived) threats posed by weapons of mass destruction, are seen by many as challenging the traditional international law limitations to this right. This is demonstrated by the fact that, in 2003 the United Nations Secretary-General created a High-level Panel on Threats, Challenges and Change to, in part, consider the ‘relevance’ of these principles in light of current and future challenges to collective security.

It is not yet apparent whether, and how far these challenges will expand the scope of article 51 of the United Nations Charter—suffice to say for the purposes of this article it is to be emphasized that the political and strategic nature of outer space call for a careful and detailed consideration of all appropriate approaches to address the proliferation of space weapons technology. It also demonstrates that there is perhaps an uncomfortable degree of flexibility for those States determined to ignore the underlying principles safeguarding the weaponization of outer space.

---

44. Id, pmbl., art. 6.
46. Simma,, above note 37, 668, where the author asserts that ‘aggression’ as defined in Resolution 3314 does not coincide with the notion of ‘armed attack’ under article 5 of the United Nations Charter.
In this regard, it is also significant—although somewhat perplexing—that the international space law regime at the same time both provides that States have a right to deploy satellites and proscribes any harmful interference with their ‘activities in the peaceful exploration and use of outer space’. In this regard, the use of ASATs or Direct Energy Weapons—primarily lasers—on a State’s satellites could either be a use of armed force by a State against the sovereignty of another State or equated with the use of weapons by a State against the territory of another State. It is thus clear that the cyber-attack cannot be justified as self-defence, at least in the absence of any prior action by the victim State in targeting another State’s satellites. Any action absent such prior attack can itself be inferred to constitute an ‘armed attack’ within the meaning of article 51 of the United Nations Charter. This would at the very least include the laser ‘blinding’ of satellites and certainly the deployment of hyper-velocity kinetic weapons. Of even more technical and legal uncertainty is the question of whether detonations in an orbital plane that generate an Electro-Magnetic Pulse (EMP) or Van Allen radiation belts that impair the operation of satellites of a third State would constitute an armed attack.


The crux of the present day problem is that the majority of devices involved in military uses of outer space have a dual purpose—not only in the sense that they are both offensive and defensive, but also because they carry out, or have the potential to carry out, both civilian/commercial activities as well as military ones. This concept of a ‘dual use’ satellite is by now well-known in space parlance and creates leeway to create a semantic and interpretational battleground regarding the meaning of the ‘peaceful purposes’ principle that underpins the international space law regime. As noted above, article IV of the Outer Space Treaty (‘The Moon and other celestial bodies shall be used … exclusively for peaceful purposes’) specifies what is seemingly a very important component of international space law. This principle is also reflected in article III of the Moon Agreement, which perhaps goes even further by stating that the Moon (and other celestial bodies) shall be used ‘exclusively for peaceful purposes’. Even before the finalization of the international space law treaties, the General Assembly had recognized ‘the common interest of all mankind in the progress of exploration and use of outer space for peaceful purposes’ through its 1963 ‘Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space’.

However, almost as soon as this fundamental principle was enunciated, disagreement and confusion arose as to exactly what it meant. The United States, from the very beginning of the Space Age up to the present, has maintained the official position that ‘peaceful’ means ‘non-aggressive’ and not ‘non-military’, except for some of its very earliest statements on the

---

48 Outer Space Treaty, above note 34, art. IX.
49 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (‘Moon Agreement’), opened for signature 18 December 1979, 1363 UNTS 21 (entered into force 11 July 1984), art. 3(1) (emphasis added).
50 G.A. Res. 1962 (XVIII), above note 19. This provision is repeated in Outer Space Treaty, above note 34, pmbl. para. 2.
international control of space activities, which appeared to support the proposition that outer space should be used exclusively for non-military purposes. Apart from those early suggestions, the overriding goal of United States space policy during the pre–Outer Space Treaty era was to gain international recognition of the legality of reconnaissance satellites, while simultaneously discouraging military space activities that threatened those assets. It is therefore not surprising that the traditional, almost dogmatic, interpretation of the United States, which regarded ‘peaceful’ as synonymous with ‘non–aggressive’ reflects and upholds that policy. The interpretation is regarded by many as a corollary to and in conflict with the meaning of the terms ‘peace’ and ‘aggression’ found in the United Nations Charter. By the same token, Professor Ivan A Vlasic notes that:

[it]he term ‘peaceful purposes’… was interpreted by the United States to mean… [that] all military uses are permitted and lawful as long as they remain ‘non–aggressive’ as per article 2(4) of the United Nations Charter, which prohibits ‘the threat or use of force’.

In contrast, as part of a diplomatic offensive to ban United States reconnaissance satellites, the Soviet Union initially took the view, at least publicly, that ‘peaceful purposes’ meant ‘non–military’, and that all military activities in space were thus prohibited, despite the fact that it was itself undoubtedly already engaged in, and contemplating the potential for military uses of outer space. Indeed, although the Soviet Government consistently maintained that all of its activities in space were ‘peaceful’ and ‘scientific’, its official line eventually softened as its military satellite programs came into their own. By the spring of 1958 (less than a year after the launch of Sputnik I), the anticipation of the availability of reconnaissance satellites triggered a decisive shift in Soviet policy towards the view that space could and should be used for ‘peaceful’, rather than ‘non-military’ purposes, such that the Soviet Union could be said to have acquiesced to the United States interpretation, at least at that time.

It is to be recalled that during the United Nations Conference on the Exploration and Peaceful Uses of Outer Space held in Vienna in August 1968, many important principles were formulated. The Conference drew together 78 States and a large number of international organizations, reviewing a decade of space research in practical applications—communications, meteorology, navigation and education—and practical benefits, as well as economic and legal questions pertaining to international cooperation. During the discussions, the question of whether to permit military equipment and personnel in space and on celestial bodies sparked a lively but heated

---

55 Vlasic, above note 53, 40.
56 Petras, above note 54, 1254.
debate. Several delegations, including that of the Soviet Union, initially opposed even the peaceful use of military assets on celestial bodies.\(^{57}\)

The United States, however, maintained that ‘the use of military personnel and equipment for scientific research or any other peaceful purpose should not be prohibited’,\(^{58}\) because military resources ‘played an indispensable role [in space activity] and would continue to be an essential part of future space programmes’.\(^{59}\) This view was supported by the United Kingdom.\(^{60}\)

Ultimately, the Anglo – American view prevailed. The final treaty embodied the understanding that the actual end use of a piece of equipment used in space is more important than its military origin or potential military capabilities.\(^{61}\)

In this regard, reference should be made to the \textit{Antarctic Treaty},\(^{62}\) which was concluded in 1959 and whose provisions were an interesting relevant ‘precedent’ in relation to the international management and regulation of different types of areas, that were, from a legal perspective, not to be regarded as territory in the traditional sense, and thus capable of national appropriation.\(^{63}\)

Article I of the \textit{Antarctic Treaty} provides:

1. Antarctica shall be used for peaceful purposes only. There shall be prohibited, \textit{inter alia}, any measure of a military nature, such as the establishment of military bases and fortifications, the carrying out of military manoeuvres, as well as the testing of any type of weapon.
2. The present Treaty shall not prevent the use of military personnel or equipment for scientific research or for any other peaceful purpose.

In similar terms, as previously mentioned it was agreed that article IV of the \textit{Outer Space Treaty} would allow for ‘military personnel’ but, at the same time, provide that outer space shall be ‘used exclusively for peaceful purposes’. However, this provision, while on first reading may appear relatively clear, also gives rise to difficult issues of semantics and interpretation. The impact of its ambiguity becomes clear when one considers the Reagan ‘Star Wars’ program, which was initiated during the 1980s. It was premised on ‘non–peaceful’ or ‘aggressive’ uses but geared towards the purpose of defending the United States, a peaceful ‘purpose’ of self–defence. In this context, ‘use’ and ‘purpose’ acquire a strong legal connotation. Thus, it has been argued the practical effect of article IV of the \textit{Outer Space Treaty} is that both military and non–military applications may be deployed for peaceful purposes anywhere in space.\(^{64}\)

---


\(^{60}\) U.N. GAOR, above note 65, 63. See Dembling and Arons, Id., 435, where the authors note that the British delegation argued in favor of allowing dual – use equipment on celestial bodies.

\(^{61}\) Dembling and Arons, above note 59.

\(^{62}\) Opened for signature 1 December 1959, 402 UNTS 71 (entered into force 23 June 1961).

\(^{63}\) Article II of the \textit{Outer Space Treaty} provides: ‘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.’

Whether a particular technology is permitted in space also depends both upon the intended use of the technology and whether it is to be used in the vacuum of outer space or on the surface of a celestial body such as the moon.\(^{65}\) The military origin or potential military use of a particular technology appears not to be a factor.\(^{66}\) Weapons of mass destruction are considered aggressive and are therefore prohibited in space and on celestial bodies.\(^{67}\) However, non–aggressive military uses of outer space (as opposed to celestial bodies) are not prohibited\(^{68}\) and military equipment and personnel may be used for peaceful purposes even on the moon and other celestial bodies.\(^{69}\)

In sum, the ‘peaceful purposes’ provision set out in Article IV of the *Outer Space Treaty* has been the subject of much analytical discussion as to its scope and meaning. While there is general agreement – but not complete unanimity – among space law commentators that this is directed against ‘non-military’ rather than merely ‘non-aggressive’ activities, the reality has, been different. It is undeniable that, in addition to the many commercial and scientific uses, outer space has and continues to be used for an expanding array of military activities. Unless concrete steps are taken to arrest this trend – which will require a significant shift in political will, particularly among the major powers of the world – it is likely that space will increasingly be utilized to further the military and strategic aims of specific countries, particularly as military and space technology continues to evolve and develop.

In the process of banning the placement of Weapons of Mass Destruction (WMDs) in orbit and the establishing of military bases in space, the Outer Space Treaty codified the term ‘peaceful use of outer space.’ However, no consensus has been reached as to a universal definition of the term ‘peaceful.’\(^{70}\) To many, the term ‘peaceful’ has become synonymous with the term ‘non-aggressive’ rather than ‘non-military’, thereby implying that ‘all military uses were and are allowed and lawful as long as they remain ‘non-aggressive’’.\(^{71}\)

Indeed, one could even go so far as to suggest that the ‘non-military vs. non-aggressive’ debate is a redundant argument, even though it represents an extremely important issue of interpretation of the Outer Space Treaty. The discussion should now centre on issues involving the weaponization of space. In one sense, this assumes that the militarization of space is a given, even though this flies in the face of theOuter Space Treaty. Yet, it would be naive to ignore the realities—what

---

\(^{65}\) Dembling and Arons, above note 59, 432–5.

\(^{66}\) Id.

\(^{67}\) Outer Space Treaty, above note 34, art. I.

\(^{68}\) Although the *Outer Space Treaty* failed to delineate precisely which ‘peaceful purposes’ were permissible, ‘one might conclude [from the Outer Space Treaty] that any military use of outer space must be restricted to nonaggressive purposes…’: Dembling and Arons, above note 59, 434.

\(^{69}\) Outer Space Treaty, above note 34, art. IV(2): ‘The use of any equipment or facility necessary for peaceful exploration of the moon and other celestial bodies shall . . . not be prohibited’. See also *Hearings Before the S. Comm. on Foreign Relations*, 90th Cong., 1st Sess., 81 (1967) (statement of Cyrus Vance, Deputy Secretary of Defense): ‘The treaty does not mean that military personnel or equipment will be excluded from space. Only weapons of mass destruction are barred from space.’


must be done is instead to understand what legal principles currently apply to any military activities in space and what more needs to be done to provide, at least from a regulatory perspective, an appropriate framework to protect humankind from what could otherwise be unimaginable scenarios.

As has been noted by A T Park:

> The Outer Space Treaty amounts to the ‘Constitution’ of outer space. It was the first treaty to not only set rules governing access to space, but more pertinently, it addresses the issue of space weaponization, at least to a certain degree. The fundamental premises of the Outer Space Treaty are that space is not open to national appropriation but should be reserved for the pursuit of the common interest of mankind and for ‘peaceful purposes’.

Various principles in the *Outer Space Treaty* have been expanded in subsequent treaties. However, the *Outer Space Treaty* has, at least from a judicial and interpretative viewpoint, largely been untested, and although binding under traditional rules of international law, its principles might be seen by some States to a degree as ‘aspirational’, notwithstanding the good faith (*pacta sunt servanda*) rules of international law relating to the performance of treaties. Consequently space powers have determined that military support activities such as observation, surveillance, communications, and the detection of nuclear explosions on Earth are ‘passive’, thus falling under the umbrella of ‘peaceful purposes’.

The United Nations Conferences on Disarmament, the United Nations General Assembly, the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) and the international scientific community has proclaimed and repeatedly affirmed that outer space shall be used for peaceful purposes, not for military advantage. Even if one were to continue to accept the use of the non-military/non-aggressive dichotomy, ‘no case can be made for a space-based weapon systems consistent with this norm,’ in light of the explicit *pacta sunt servanda* principles.

This imperative was articulated during special proceedings of the American Society of International Law in 1985 when Professor Martin Feinreider noted that the principle of *pacta sunt servanda* (the principle of good faith) means that ‘international law [is] binding on all nations,

---


73 See the *Moon Agreement, : Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space*, opened for signature 22 April 1968, 672 UNTS 119 (entered into force 3 December 1968); the *Liability Convention*, above note 40.

74 Park, above note 72, 877.

75 Article 26 of the *Vienna Convention on the Law of Treaties*, opened for signature 23 May 1969 1155 UNTS 331, (entered into force 27 January 1980), which also reflects customary international law, provides: ‘Every treaty in force is binding upon the parties to it and must be performed by them in good faith.’


including both superpowers’. Professor Feinreider cautioned that it is not appropriate to ‘rely on strained readings of text and disingenuous presentations of fact to erode legal obligations and thus rationalize avoidance of constraints on state behavior’. This is particularly relevant to one of the central provisions of the Outer Space Treaty—article III—which, as noted above, provides that States shall carry out activities in space in accordance with international law, including the United Nations Charter, in the interest of maintaining international peace and security.

In essence, this should preclude the utilization of space as a medium of warfare. The only possible exception would be a defensive system, but this is a slippery slope, considering the dual-purpose nature of space technology. In any case, no nation should feel the need for a defensive system in space in circumstances where no space weapons are deployed. The best paradigm would be a blanket proscription of any deployment of weapons in space. The position is no doubt complicated by the fact that article 51 of the United Nations Charter—which confirms the ‘inherent right’ of self-defense ‘if an armed attack occurs’—is relevant to the legal regulatory regime.

The desirability of a blanket proscription of weapons deployment in space is supported by several illustrations. One of the major space-faring powers, the former Soviet Union (now Russia) has argued in the past and maintains the position that, based upon contemporary international law, it is important that outer space be excluded from the sphere of the arms race and that all channels for militarization and weaponization of outer space should be blocked. It is significant that the Soviet Union proposed successive ‘radical’ solutions for the prevention of the militarization and weaponization of space, notwithstanding that for a while it had the capacity and capability to transform itself into a peerless space power along with the United States. As early as 1981, the Soviet Union submitted to the United Nations Committee on Disarmament a Draft Treaty on the Stationing of Weapons of any Kind in Outer Space, which sought to ban deployment of all types of weapons in outer space and to provide for the use of national technical monitoring facilities.

Two years later, the Soviet Union made specific proposals on banning and eliminating space attack weapons, as well as any land, air or sea–based systems designed to destroy objects in outer space. It also proposed to the United Nations General Assembly that a treaty on the prohibition of the use of force in outer space and from space against the Earth be concluded. The Soviets proposed that the exclusion of outer space from the sphere of the arms race is an international obligation, and that the prevention of militarization would provide an opportunity for the peaceful use of space as a means to solve the acute economic, social and cultural development problems facing humankind. The United Nations General Assembly subsequently took this on board, noting its grave concern regarding the extension of an arms race into outer space and requesting

---

80 Escalera, above note 78, at 234.
81 Article 51 of the United Nations Charter provides inter alia: ‘Nothing in the present Charter shall impair the inherent right of individual or collective self-defense if an armed attack occurs …’
the conclusion of a treaty to safeguard international peace and security.\textsuperscript{84} This can be illustrated by the numerous United Nations General Assembly Resolutions on that issue.\textsuperscript{85}

Further, in 2003, China publicly declared ‘that space should not be militarized and that space technologies should be used for peaceful purposes’.\textsuperscript{86} This is a very significant position when one considers that this was the same year that China joined the ‘Space Club’ elite after becoming only the third nation in the history of humankind to successfully launch a manned space flight.

Despite potential ‘loopholes’,\textsuperscript{87} however, the reality is that the international law principles regulating the use and exploration of outer space require that ‘outer space’ be used for ‘peaceful purposes’. The concept is an accepted axiom of customary international law and continues to be recognized in the majority of space–related international agreements and United Nations declarations or resolutions. The term ‘peaceful’ can also be found in virtually all United Nations documents devoted to outer space matters. As the Conference on Disarmament observed in 1986:

> Outer space should be used exclusively for peaceful purposes for the benefit of ... mankind. No country should develop, test or deploy space weapons in any form. An international agreement on the complete prohibition of space weapons should be concluded through negotiations as soon as possible.\textsuperscript{88}

The ‘peaceful purposes’ principle establishes a norm in support of the maintenance of outer space for such purposes. This norm has been sustained in excess of forty years and, in the process, has ensured that the realm of space would not be used as a battleground for international actors to settle their disputes. In order for this standard to carry weight with regard to space weaponization, a normative legal regime for the future of space needs to be elaborated. Although not without its shortcomings, the \textit{Outer Space Treaty} has, for the most part, withstood the test of time and the expansion of many (though not all) of the new modes of utilizing outer space. It is suggested, therefore, that for this precise reason, an effort to strengthen the principles that is reflects must be pursued.

\textbf{V. CONCLUSION}

\textsuperscript{84} Id.

\textsuperscript{85} Refer to the numerous United Nations General Assembly Resolutions, beginning with Resolution 36/97C, 9 December 1981, which have been directed towards the ‘Prevention of an arms race in outer space.’ The political dimensions of this issue in the early 1980s were indicated by a split, along ideological grounds, on the main thrust of these resolutions: see Nandasiri Jasentuliyana, \textit{International Space Law and the United Nations}, 1999, Kluwer Law, The Netherlands, 82.

\textsuperscript{86} William S Murray III and Robert Antonellis, ‘China’s Space Program: The Dragon Eyes the Moon (and Us)’ \textit{47 Orbis} 645, 649 (2003).

\textsuperscript{87} Major Robert Ramey notes that the international space law regime discloses that, at a minimum, the following military activities in outer space are not comprehensively prohibited:

\begin{enumerate}
  \item The use of military personnel;
  \item The use of space–based remote sensors in support of combat or other military purposes;
  \item The use of space–based communication, navigation, and meteorological systems for combat or other military purposes;
  \item The deployment and non–aggressive use of conventional space weapons; and
  \item The transiting of nuclear and other weapons of mass destruction in non–orbital trajectories.
\end{enumerate}


\textsuperscript{88} Conference on Disarmament, Final Record of the 350\textsuperscript{th} Plenary Meeting, UN Doc. CD/PV.350 (1986).
Because of its uniquely commanding height, outer space has gained even greater military and strategic value in the post-cold-war international strategic environment. This provides for the possibility that outer space will become a platform for warfare. This development can only have negative consequences in the long term. It will disrupt global strategic balances and stability, undermine international and national security and harm existing arms control arrangements, in particular those related to nuclear weapons and missiles. All of these will inexorably trigger a new arms race — the symptoms of which we are already witnessing.

The international community should, ideally, not allow the development of space warfare technologies to outpace the international space law regime. Even if this is not possible in every respect, the fluidity and flux of international politics ought to offer a strong reason for the United Nations to categorically deny each and every nation explicit or tacit permission to place weapons in outer space, since changing geopolitical dynamics will lead other aspiring space powers along the same path. In the absence of such action, there is an increasing likelihood that outer space will not only be used to facilitate armed conflict (as it already is) but will become a theatre of war. The tendency of the major militarized powers to rely ever increasingly on space technology is spiraling into a space weapons race. We are now seeing the United States striving to retain space superiority, but being increasingly challenged in this regard by other major space-faring countries—Russia, China and perhaps India—in the development of sophisticated space weapons technology.

The space faring powers have repeatedly expressed a commitment to the exploration and use of outer space by all nations for peaceful purposes and for the benefit of all humanity. States should pursue greater levels of partnership and cooperation in national and international space activities and work together to ensure the continued exploration and use of outer space strictly for peaceful purposes. Prevention of an arms race in outer space should be actively advocated. We must move towards the negotiation of a comprehensive international legal instrument addressing issues of space weaponization, based on the accepted principle that space is the common heritage of mankind. The progress of human society will suffer should outer space—which offers so much to all of us and represents a wondrous catalyst and opportunity for peaceful development and innovation—is to be transformed into a military frontier.

In sum the future of space security will depend on how effectively all States strive for the ‘de-weaponization’ of outer space and pressure the major space faring nations, and how those nations are able to set aside their differences. There exist some important legal principles that promote this; however, they are not comprehensive or entirely without ambiguity. Moreover, a significant level of good faith and political will must be shown by all States, particularly the major space-faring States, in order to emphasize the co-operative and beneficial nature of the use and exploration of outer space.

If these States in particular cannot find the will to adhere to the fundamental ‘humanity’ principles of the international law of outer space, outer space will become even more susceptible

---

89 Article 1 of the Outer Space Treaty provides in part: ‘The exploration and use of outer space … shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development …’
to the exploitation of weapons technology. The ideal solution undoubtedly involves an extremely
difficult exercise in international diplomatic negotiation, and the authors have no magic panacea
as to how this might best be achieved in the short term. However, over time it is to be hoped that
all stakeholders will come to realize that the alternate scenarios are far more frightening to
contemplate.