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THE UNITED STATES AND THE LEGALITY OF OUTER SPACE WEAPONIZATION:

A Proposal for Greater Transparency and a Dispute Resolution Mechanism

by

Michael C. Mineiro*

SYNOPSIS

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a member of the North Carolina bar, the International Law Association, and the ABA forum on Air and Space Law.

V. Intent Clarification and Dispute Resolution

VI. Conclusion

"...the present extent of U.S. dependence on space, the rapid pace at which this dependence is increasing and the vulnerabilities it creates, all demand that U.S. national security space interests be recognized as a top national security priority".

- 2001 US Space Commission¹

I. Introduction

• here is no question that outer space is a national security priority for the United States. There is a question of whether outer space should be weaponized, and if weaponized, to what extent does the law allow this.

This article seeks to objectively define the legal parameters of weaponization applicable to the United States. Those determining US space policy must have an objective understanding of the law if they are to make rational legal choices. Towards this end, this paper reviews certain international and domestic laws governing the weaponization of outer space (i.e. the deployment of space weapons) that are applicable to the United States. The existing law is analyzed within the context of the following four questions:

- Does this law establish the legality or illegality of outer space weaponization?
- Does this law limit the type of weapons that can be deployed?
- Does this law limit the scope of weapon deployment?
- Does this law impose any secondary considerations?

Arguments governing legality or illegality of weaponization on the basis of moral or ethical grounds are not analyzed. However, the moral and ethical dimensions of space weaponization are important and should be duly regarded.

This article concludes with a legal proposal for greater transparency in space weaponization activities and the establishment of a space weaponization dispute resolution mechanism.

II. Status of the Law

Outer space law² has only been in existence since the mid-20th

¹ Report of the Commission to Assess the United States National Security Space Management and Organization (2001). Online: http://www.fas.org/spp/military/commission/chapter7.pdf at 99. (date accessed: December 5, 2007). ² See Robert A. Ramey, "Armed Conflict on the Final Frontier: The Law of War in Space"

century.³ The issues presented by the weaponization of outer space are even more recent. Any meaningful exploration into the legal issues surrounding the weaponization of outer space must recognize the limited nature of the *current* law. This is not to say that an inquiry into the present status of the law is not useful. On the contrary, understanding the current state of the law is of paramount importance if the law is to significantly develop. It is only when we understand where we are, and where we have been, that we can develop with wisdom the *future* of outer space law. Furthermore, an understanding of the current law is critical to any meaningful policy discussion on the weaponization of outer space.

The current law governing the weaponization of outer space derives from a variety of legal sources: International Treaties, ⁴ International Customary Law, Domestic Statutory Law, and Domestic Constitutional Law. ⁵ Declarations of the United Nations General Assembly and other UN bodies also contribute to our current understanding of the law governing the weaponization of outer space.⁶

Many of the terms related to the issue of weaponization have not yet been defined in international law and are subject to interpretation. This infantile state of the law presents both opportunities and pitfalls. Ambiguity in the law allows States to individually apply interpretations of the law, perhaps for their own advantage. In the event of States conflicting over interpretation of the law, either a judicial resolution or a non-judicial resolution will be necessary to resolve the disagreement.⁷ Through the identification and clarification of present law relating to weaponization, we may, to some degree, mitigate the likelihood of future

^{(2000) 48} A.F.L. Rev. 1 at 19, n. 283 [Ramey]. He states: "Space law is defined as that comprising 'all international and national legal rules and principles which govern the exploration and use of outer space by States, international organization, private person and companies'".

³ See *Ibid.*, n 282, "With the exception of environmental protection, no major category of international law is of more recent origin that that devoted to outer space".

⁴ Article VI of the *United States Constitution* establishes that Treaties entered into pursuant to the Constitution are the law of the United States. Article VI states: "This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding." Unless otherwise noted, all Treaties referenced in this paper are currently applicable to the United States pursuant to Article VI of the US Constitution.

⁵ See United Nations Office of Outer Space Affairs, International Agreements and other Available Legal Documents Relevant to Space-Related Activities (Vienna, United Nations, 1999) online: http://www.unoosa.org/pdf/spacelaw/intlagree.pdf (date accessed: December 5, 2007) [UNOOSA, International Agreements].

⁶ Ibid.

⁷ Judicial resolution may be possible through the ICJ or an international arbitration mechanism. Non-judicial resolution may occur through a variety of forums, including diplomatic negotiations and mediation. Although illegal if not done in accordance with international law, armed conflict is one method of resolving disputes. It is the hope of this author that alternative dispute resolution mechanisms will be in place and successfully emasculate the need for armed conflict as a method of resolving disputes.

conflict.8

III. Defining the Terms of the Discussion

Any relevant discussion of outer space weaponization must commence with a definition of the terms that will be used during the discussion.

A. Outer Space

The Outer Space Treaty of 1967 (Outer Space Treaty) is the first multilateral treaty governing the activities of States in the exploration and use of outer space.⁹ This Treaty is the cornerstone of international outer space law and is the primary source of law regulating outer space.

Despite its significance, the drafters of the Outer Space Treaty did not incorporate into the Treaty a definition of outer space.¹⁰ Neither the Outer Space Treaty nor any provision of international law defines where "outer space" begins.¹¹

After the successful orbit of Sputnik I in 1957, the General Assembly of the United Nations created an ad hoc Committee on the Peaceful Uses of Outer Space (ad hoc UNCOPUOS). ¹² In 1959, UNCOPUOS was established as a permanent body. ¹³ Prior to the drafting of the Outer Space Treaty, in fulfillment of its mandate, the Legal Sub-Committee of UNCOPUOS explored and reported on the issue of demarcating a boundary between air and outer space. ¹⁴ The Legal Sub-Committee concluded that an "authoritative answer to the problem at this time would require an international agreement, and the opinion was expressed that such agreement now, based on current knowledge and experience, would be premature".¹⁵ "It was considered that, in the

⁸ One of the greatest attributes of the law is the capacity for the peaceful resolution of disputes. Mankind can avert wars through the peaceful resolution of disputes. However, without a well developed international legal regime, the weaponization of outer space may be resolved through non legal-means, even armed conflict.

⁹ Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies signed on 27th January 1967, 18 UST 2410; TIAS 6347; 610 UNTS 205. All space-faring nations, including the U.S., are Parties to this Convention.

 $^{^{10}}$ See $\mathit{Ibid}.$ While the treaty references outer space numerous times, no definition is provided.

¹¹ See N. Jasentuliyana, *International Space Law and the United Nations*, (Kluwer Law International: The Hague, 1999) at 394-395.

¹² Question of the Peaceful Use of Outer Space, GA Res. 1348 (XIII), UN GAOR, UN Doc. A/Res/1348 (XIII) (1958).

¹³ International Cooperation in the Peaceful Uses of Outer Space, GA Res 1472 (XIV), UN GAOR, UN Doc. A/Res/1472 (XIV) (1959).

¹⁴ *Supra*. note 12. One mission of UNCOPUOS is to report "on the nature of legal problems which may arise in the carrying out of programs to explore outer space".

¹⁵ Ad Hoc UNCOPUOS, *Report of the Legal Subcommittee*, UN Doc. A/AC.98/2 [59-14642] (June 12, 1959) at 8.

absence of an express agreement, further experience might lead to the acceptance of precise limits through the rule of customary law".¹⁶ During the negotiation of the Outer Space Treaty, participating States were unable to reach an agreement on how to determine the boundary between air and outer space.¹⁷ The absence of a definition from the Outer Space Treaty was not an oversight, but rather a political necessity in the absence of consensus among participating States as well as a prudent omission allowing for resolution at a later time when "knowledge and experience" would be able to provide greater clarity on the demarcation issue. To this day no rule of conventional or customary international law has been established that defines where airspace ends and outer space begins.

In some instances, the lack of a clear boundary between air and outer space causes a concurrent conflicting application of outer space and air law. At the forefront of conflicts is the issue of national sovereignty. It is an accepted principle of international law that every State has complete and exclusive control over the airspace above its territory.¹⁸ The Outer Space Treaty states a conflicting principle of international law, that outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty and that outer space shall be free for the exploration and use by all States.¹⁹ These conflicting principles impact the legal analysis of space weaponization as it relates to the altitude of a deployed space weapon. If a space weapon is deployed at an altitude within the unresolved boundary of air and outer space above the territory of a sovereign State, that State may perceive the deployment of the space weapon as a legal violation of their national sovereignty.

The debate on demarcating outer space and airspace can be categorized into two main approaches: the functionalist approach and the spatialist approach. The functionalist approach does not seek to define a boundary between airspace and outer space. Instead, the functionalist approach "entails the application of laws, regardless of where they may take place".²⁰ The problem with the functionalist approach, within the context of outer space weaponization, is "that with no defining line,

¹⁶ *Ibid.*

¹⁷ Vladlen S. Vereshchetin & Gennady M. Danilenko, "Custom as a Source of International Law of Outer Space" (1985) 13 J. Space L. 22 at 27.

¹⁸ Art. 1 of the *Convention on International Civil Aviation* (Also known as the '*Chicago Convention*') signed at Chicago, December 7th, 1944 (entered into force on 4 April 1947). Article 1 states an accepted principle of international law: "The contracting States recognize that every State has complete and exclusive sovereignty over the airspace above its territory."

¹⁹ Article 1 and Article 2 of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Also known as the 'Outer Space Treaty'), January 27, 1967, 610 U.N.T.S. 205 (entered into force on October 10, 1967). Article 2 of the Outer Space Treaty states a principle enumerated in para.2 of the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, December, 13, 1963, General Assembly Resolution 1962 (XVIII).
²⁰ Henri Wassenbergh, "The Art of Regulating International Air and Space Transportation:

²⁰ Henri Wassenbergh, "The Art of Regulating International Air and Space Transportation: An Exercise in Regulatory Approaches to Analyzing Air and Space Transportation" (1998) XXIII Ann. Air & Sp. L. 201 at 206.

different States could have different sovereignty claims in what other States might consider outer space.^{"21} The spatialist approach "favors the establishment of a demarcation line between air and outer space".²² The spatialist approach resolves the issue of sovereignty claims by placing a clear boundary between airspace and outer space. Ultimately, a distinct 'spatialist' type legal boundary may need to be established solely for the purpose of determining sovereignty while a separate 'functionalist' type regime is applied to vehicles, objects, and activities traversing the airspace and outer space boundary for the purpose of standardization and uniformity in regulation.²³

For the purposes of this article, "outer space" will be defined *as beginning from at least the height above Earth of the lowest perigee of any existing or past artificial satellite that has orbited Earth*. ²⁴ As Christopher M. Petras perspicaciously reasoned: "since no State has ever claimed that a satellite orbiting the Earth was infringing its national airspace, it is possible to say that in international law, outer space begins *at least* from the height above the Earth of the lowest perigee of any existing or past artificial satellite that has orbited the Earth without encountering any protest".²⁵ This definition will assist our discussion by providing a clear delimitation that references actual State practice.

B. Space Weapons

"Space weapon" is not defined within any international treaty, international customary law, or domestic US law. While treaty and customary law do provide some guidance on the legality of weaponization, no comprehensive definition of "space weapon" is provided. *The importance of defining space weapon cannot be understated; for whoever defines space weapons defines the debate of weaponization.*

The question of what constitutes a "space weapon" is a matter of degree. One can theorize that a broad definition of space weapon would include terrestrial and space-based systems with the capacity to destroy, damage, or interfere with a space asset or Earth-based asset from space. Conversely, a narrow definition of space weapon would limit its application to systems in space whose designed purpose is to physically destroy or damage an object in outer space.

 $^{^{21}}$ Varlin J. Vissepo, "Legal Aspects of Reusable Launch Vehicles" (2005) 31 J. Space L. 165 at 175.

 $^{^{22}}$ Katerine M. Gorove, "Delimination of Outer Space and the Aerospace Object – Where is the Law?" (2000) 28 J. Space L. 11 at 16.

²³ One can envision a dualist international system where States retain their rights of sovereignty up to a specific altitude, while at the same time suborbital aerospace vehicles, space elevators, and other activities that traverse the boundary of air and outer space, but still require unification and standardization of communication, navigation, and other safety measures, are subject to an international system of regulation based on a functionalist approach.

approach. ²⁴ See Christopher M. Petras, "Space Force Alpha": Military Use of the International Space Station and the Concept of "Peaceful Purposes" (2002) 53 A.F.L. Rev. 135 at 155. ²⁵ *Ibid.*

One of the major difficulties in defining "space weapon" is that many space systems designed for peaceful purposes have the *capacity* to destroy or interfere with another object or being in space or in the Earth environment.²⁶ For example, NÁSA recently launched their first autonomous robotic spacecraft, a repair robot called DART.²⁷ DART is laying the groundwork for future projects like robotic delivery of cargo to space shuttles and automated docking and repair between spacecraft in orbit. DART is capable of maneuvering to satellites and physically interacting with satellites. DART's ability to maneuver and interact with other satellites gives it the potential to be used as an anti-satellite weapon (ASAT). A DART-like space system could target a satellite and force it out of its orbit, either destroying it or effectively negating its usefulness. Is a space robot like DART a "space weapon?" Is it a dual-use system? Or is it strictly a peaceful non-weaponized system? Lawyers and policy makers debating the issue of weaponization must consider the overlapping capabilities inherent in space systems. Most space systems, due to their very nature, will exhibit some weapon-like capabilities.

Article IV of the Outer Space Treaty bans the placement of nuclear weapons or any other kinds of weapons of mass destruction (WMD) in Earth orbit, in outer space, or on celestial bodies.²⁸ Through logical inference, this WMD prohibition carves out a minimum definition of space weapons. A space weapon is, at the very minimum, a WMD placed in orbit, in outer space, or on a celestial body.²⁹ Beyond this definitional inference, no clarity is provided under international law.

The relevant literature is rich with proposed definitions of "space weapon". The Canadian Government recently adopted the following definition of space weapon: "any device designed or modified to inflict physical or operational damage to an object in space through the projection of mass or energy".³⁰ In his article titled, Space Sanctuary: A Viable National Strategy, Col. Bruce DeBlois defines space weapons as anything greater than the current Space-to-Earth and Earth-to-Space ISR/MCG/Comm capability.³¹ In the Air and Space Power Journal

²⁶ See Ramey, *supra* note 2 at 132.

²⁷See NASA DART webpage, online at http://www.nasa.gov/dart/main/index.html (date accessed: December 5, 2007). On April 15, 2005, DART was launched from Vandenberg Air Force Base for a proposed twenty-four mission. DART was designed to rendezvous with and perform a variety of maneuvers in close proximity to an orbiting satellite. DART only completed eleven hours of the planned twenty-four mission before excessive propellant use led to a collision that terminated the DART mission.
²⁸ Article IV of the *Outer Space Treaty of 1967, supra* note 9 states: "States Parties to the

²⁸ Article IV of the *Outer Space Treaty of 1967, supra* note 9 states: "States Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner...".

²⁹ A nuclear explosion in outer space creates an electromagnetic pulse (EMP). An EMP can interfere, damage, or destroy the electronics of satellites and other space systems. The Limited Test Ban Treaty prohibits the use of nuclear weapons as EMP space-weapons. ³⁰ See Henry L. Stimson, "Is the Weaponization of Space Inevitable?", online:

http://www.stimson.org/wos/pdf/space2.pdf (date accessed: December 5, 2007), at 30, n. 6. See also "Food for Thought, Non-Weaponization of Outer Space" Canadian non-paper, (May 1, 2002) at 2.

³¹ See Lt. Col. Bruce DeBlois, "Space Sanctuary: A Viable National Strategy" Airpower

editorial titled, Moral and Ethical Decisions Regarding Space Warfare, Col. John Hyten and Dr. Robert Uy define a space weapon as a ground-based or space-based device that can attack and negate the capability of space systems in orbit or a device based in space that can attack targets on the Earth.³²

Unless otherwise noted, this paper adopts the following definition of a space weapon:

Any device, whether based on Earth, in outer space, or in any other location, designed or modified to inflict physical or operational damage to an object in outer space through the projection of mass, the projection of energy, or through direct physical contact; or, any device based in outer space designed or modified to inflict physical or operational damage to targets on the Earth through the projection of mass, the projection of energy, or through direct physical contact.

This definition has several advantages. First, it includes both terrestrial and space-based systems. This is important because "the discussion on space weapons should not be limited to deployment in space but [must] include those weapons on Earth that can be directed into space".³³ Second, numerous systems currently deployed in outer space and on Earth may have the capability to interfere with the operation of an object in space. If a definition fails to consider the function of a system, then the definition may include systems that are currently deployed but not designed to act as space weapons.³⁴ The definition adopted in this paper is limited to devices "designed or modified" to "inflict physical or operational damage". An over-inclusive definition of space weapon would undermine the rationale for a debate on weaponization and contradict years of State practice.³⁵

Journal (Winter 1998) at 48, online:

http://www.airpower.maxwell.af.mil/airchronicles/apj/apj98/win98/deblois.html (date accessed: December 5, 2007).

³² See Col. Hyten and Robert Yu, "An Editorial: Moral and Ethical Decisions Regarding Space Warfare" (2004) XVIII(No.2) Air and Space Power Journal [Hyten and Yu], available online at:

http://www.airpower.maxwell.af.mil/airchronicles/apj/apj04/sum04/hyten.html (date accessed: December 9, 2007).

³³ Ibid., quoting Wulf von Kries, a member of the German Space Agency.

³⁴ Successful ASAT tests conducted by the United States, former Soviet Union, and the People's Republic of China establish that these States have the capacity to deploy devices which fit within the definition of space weapons proposed in this paper. Nonetheless, it is unknown to this author whether these weapons are currently deployed. For the purposes of promoting debate on this important issue, let us assume that currently no such devices are deployed. In some measure, the debate of weaponization is based on the premise that weapons have not yet been deployed.

³⁵ During the Cold War, both the US and the former USSR deployed Inter Continental Ballistic Missiles (ICBMs). ICBMs could fit within an over-inclusive definition of space weapon for at least two reasons: 1) EMP capability; and, 2) the orbit of an ICBM take it into outer space. Nonetheless, neither the US nor the former USSR ever treated ICBMs as a violation of the ABM treaties.

C. Militarization v. Weaponization

The United States uses outer space for military purposes. Space-based systems provide significant support to the US military. Such support includes Intelligence, Surveillance, and Reconnaissance/ Mapping, Charting, and Geodesy/Communications (ISR, MCG), communications, navigation, missile warning, and environmental data.³⁶ US space systems and capabilities are considered critical to the nation's military effectiveness.³⁷ As stated in the US Air Force Space Command Strategic Master Plan FY06, "Recent conflicts in Afghanistan and Iraq have clearly demonstrated the asymmetric advantage [outer] space brings to any fight, whether that fight is in the middle of the desert, isolated mountainous terrain, or a large metropolitan area".³⁸

It is clear that the deployment of systems critical to the military of the United States, i.e. the militarization of outer space, has occurred. However, the militarization of space does not necessarily entail its weaponization.³⁹ Weaponization occurs only when space weapons are deployed. ⁴⁰ For the purposes of this discussion space weapon deployment is defined as: *the placement of a space weapon into such a state as to facilitate the immediate or near immediate military use (i.e. employment) of said weapon.*

Although beyond the scope of this paper, it should be mentioned that the *employment* of a space weapon requires a legal analysis distinct from that of *deployment*. The weaponization of outer space requires only the *deployment* of a space weapon. *Employment* of a space weapon will be subject to *jus in bello* and *jus ad bellum*, as well as other relevant international law.

The United States, the former Soviet Union, and the People's Republic of China have all successfully tested anti-satellite weapons in space.⁴¹ An anti-satellite weapon fits within the definition of space weapon. These countries have demonstrated the capacity to deploy space weapons and, although none of them openly admits this, it is quite possible that space weapons are currently deployed in outer space (i.e. space weaponization).

accessed: December 5, 2007).

³⁶ See Bruce DeBlois, *supra* note 31 at 49. ISR/MCG/Comm stands for Intelligence,

Surveillance, and Reconnaissance/ Mapping, Charting, and Geodesy/ Communications. ³⁷ See Air Force Space Command, *Strategic Master Plan FY06 and Beyond*, (1st October 2003) at 1, online: http://www.wslfweb.org/docs/Final%2006%20SMP--Signed!v1.pdf (date

³⁸ See *ibid.*, foreword by General Lance W. Lord.

³⁹ See Ramey, *supra* note 2 at 37, n. 554.

⁴⁰ *Supra.*, note 34.

 $^{^{41}}$ William Broad and David Sanger, "Flexing Muscle: China Destroys Satellite in Test" <u>New</u> York Times (1/19/2007), online New York Times website:

http://www.nytimes.com/2007/01/19/world/asia/19china.html (date accessed: October 5, 2007)

D. Peaceful Purposes

Within the context of outer space, the phrase "peaceful purposes"⁴² is frequently used in international treaties, UN General Assembly resolutions, US domestic legislation, and numerous other relevant legal sources.⁴³ However, the phrase "peaceful purposes" is undefined in the context of international space law.⁴⁴ "Peaceful purposes" were initially interpreted restrictively to mean only "non-military" activities.⁴⁵ During the Cold War, actual state practice by the United States and the former Soviet Union established that peaceful uses of space would include passive military activities.⁴⁶ Satellite reconnaissance, precision guidance systems, and communication between forces engaged in armed combat are a few examples of passive military uses of space systems. No state has formally protested against an interpretation of peaceful uses incorporating passive military activities.⁴⁷

Furthermore, the definition of peaceful purposes seems to be expanding according to State practice.⁴⁸ Maj. Elizabeth Waldrop astutely points out that "various unopposed military uses of space may as a practical matter enlarge the unofficial definition of 'peaceful purposes' to the point that specific arms control agreements may be the only effective limitation on the military use of space, with few corresponding limits on the development and implementation of space [rules of engagement] (SROE)".⁴⁹

E. Aggressive v. Non-Aggressive Military Activities

A distinction can be drawn between aggressive and non-aggressive military activities in outer space. During the 1991 Gulf War, the US Navy

⁴² The phrase "peaceful uses," which is also present in outer space law, is sometimes used interchangeably with the term "peaceful purposes". "Peaceful uses" is also undefined in the context of international space law. Although unclear, it is logical to conclude that the operational definitions of these two phrases are distinct. Within the context of this paper, this issue is not further developed; primary due to the limited usefulness of such analysis on the issue of weaponization given the development of the law as it currently relates to these two phrases. Nonetheless, a legal practitioner should consider a distinction exists between these two phrases.

⁴³ See UNOOSA, International Agreements, *supra* note 5. See also 42 U.S.C.S. §2451 (2005): "Congress hereby declares that it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind".

⁴⁴ See Petras, *supra* note 24, where he states: "The scope and substance of the notion of "peaceful use of outer space and celestial bodies" remains one of the main sources of controversy surrounding space activity."
⁴⁵ See Nina Tannenwald, "Law versus Power on the High Frontier: The Case for a "Control of the Case for a "Contro

⁴⁵ See Nina Tannenwald, "Law versus Power on the High Frontier: The Case for a Rule-Based Regime for Outer Space" (2004) 29 Yale J. Int'l. L. 363 at 373, where she states: "The current legal regime for space was shaped by a nearly universal enthusiasm in the 1950's to adopt principles for preserving space for peaceful purposes, initially interpreted restrictively to mean 'nonmilitary' activity" [Tannenwald].

⁴⁶ Ibid., at 373.

 ⁴⁷ Elizabeth Waldrop, "Integrations of Military and Civilian Space Assets: Legal and National Security Implications" (2004) 55 A.F.L. Rev. 157 at 223 [Waldrop].
 ⁴⁸ Ibid.

⁴⁹ *Ibid.*, at 225.

Judge Advocate General (NJAG) concluded that the use of Inmarsat to support the US-led coalition was legitimate because the military actions of the coalition were carried out under the legal authority of the United Nations, and hence amounted to a non-aggressive act.⁵⁰ In supporting the NJAG's interpretation, the US Department of State stated as follows:

The [Outer Space Treaty] does not define "peaceful purposes," and its negotiating history does not suggest a specific meaning. Under such circumstances, the term ... should be given the meaning that is has been accorded under the law relating to space activities. Under such a reading, "peaceful purposes" does not exclude military activities so long as those activities are consistent with the United Nations Charter.⁵¹

While the NIAG opinion correctly interprets the US-led coalition as legitimate because the missions were carried out under the legal authority of the United Nations, the opinion fails to read Article III and Article IV in their proper context. Article III requires States to "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." 52 The NJAG advisory opinion suggests that military activities are allowed in Outer Space (including the moon and celestial bodies) so long as those activities are consistent with the United Nations Charter (i.e. non-aggressive). While Article III does require States to carry on activities in accordance with the Charter of the United Nations and the Charter's prohibition against the use of aggressive force,⁵³ Article IV(2) of the Outer Space Treaty reserves the moon and other celestial bodies "exclusively for peaceful purposes".⁵⁴ An interpretation of "exclusively for peaceful purposes" to prohibit only aggressive military actions on the moon and other celestial bodies would emasculate Article IV(2). As Manfred Lachs pointed out, "If it [peaceful uses] was intended to forbid aggressive uses only, mere reference to international law and the Charter of the United Nations would have sufficed".55

IV. The Legality of Weaponization

Having clarified basic definitional components of this discussion, this article now moves onto the question of legality. Is it legal for the US

⁵² Supra., note 9, art. III.

⁵⁰ Ibid., at 225, n. 349

⁵¹ *Ibid.*, at 225, n. 350.

⁵³ *The United Nations Charter*, art. 2(4). "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."

⁵⁴ Supra., note 9, art. IV.

⁵⁵ I.Á. Vlasic, "Space Law and the Military Applications of Space Technology", in N. Jasentuliyana, ed., *Perspectives on International Law* (Kluwer Law International: Boston, 1995), at 392, quoting Manfrad Lachs, *The International Law of Outer Space*, Recueil Des Cours, 1, at 89-90 (1964-III).

to deploy space weapons? If so, what type of weapons may be legally deployed? Are there any legal limitations on the scope of deployment? Are there any secondary legal considerations?

In this section of the paper, laws that may have an impact on the United State's ability to deploy space weapons are reviewed.⁵⁶ This paper limits its analysis of laws governing the weaponization of outer space directly applicable to the United States to the following:

- A. Outer Space Treaty of 1967
- B. Limited Test Ban Treaty of 1963
- C. Environmental Modification Convention of 1978
- D. 42 U.S.C.S. §2451 (2005)
- E. United States Constitution
- F. The United Nations Charter and Principles of International Law
- G. The Outer Space Registration Convention of 1974

A. The Outer Space Treaty of 1967

The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty) entered into force on October 10th, 1967.⁵⁷ The Outer Space Treaty is the principal source of guidance on the question of space weaponization.

Legality: The Treaty does not deem the weaponization of outer space per se illegal. ⁵⁸ The Treaty does place limits on the type of weapons that may be deployed and on the scope/placement of their deployment.⁵⁹ The Treaty also contains an international consultation obligation that may apply in the event of weaponization.⁶⁰

⁵⁶ It is important to note the that the United States may be a party to a bilateral agreement, memorandum of agreement, or memorandum of understanding which the United States has not publicly acknowledged and which has legal relevance to the issue of space weaponization. It should also be acknowledged that the scope of this paper does not include U.S. Presidential Executive Orders or U.S. Military Rules of Engagement.

⁵⁷ The Outer Space Treaty, *supra* note 9 was opened for signature at Washington, London, and Moscow on January 27, 1967. On April 25 the US Senate gave unanimous consent to its ratification, and the Treaty entered into force on October 10, 1967.

⁵⁸ See Bin Cheng, "The 1967 Outer Space Treaty: Thirtieth Anniversary" (1998) XXIII Air & Space Law (Number 4/5) 156 at 159, where he states: "Under the Treaty, apart from the ban to station there nuclear weapons and other weapons of mass destruction, and, as they are reminded by Article III, subject to the ordinary rules of international law, including the Charter of the United Nations, contracting States are perfectly entitled to use the outer void space for whatsoever military purpose they wish. They can put up their reconnaissance satellite, anti-satellite satellites, early-warning satellites, geodetic satellites, and any other weapon as long as it is not nuclear or capable of mass destruction." [Bin Cheng] Also see Nandasiri Jasentuliyana, *International Space Law and the United Nations* (Kluwer Law International: Hague, 1999) at 104, where he states: "The Treaty left open the possibility of the placing in outer space of weapons other than nuclear weapons of mass destruction, which are generally considered to include chemical and biological weapons." [Jasentuliyana]

⁵⁹ Ibid.

⁶⁰ Outer Space Treaty, supra note 9, art. IX.

Type: Article IV(1) of the Treaty prohibits the deployment of nuclear weapons or weapons of mass destruction (WMD) in outer space, including celestial bodies.⁶¹ Article IV(1) of the Outer Space Treaty fails to make specific reference to the moon, instead stating that States Parties undertake not to place such weapons "on celestial bodies, or station such weapons in outer space in any other manner". Some legal scholars opine that the failure of specific reference to the moon creates an ambiguity on whether nuclear weapons and WMD deployment on the moon is prohibited.⁶²

This ambiguity is overcome when taking into account the intent of the contracting parties, reading Article IV(1) in good faith within the context of the treaty, and considering the object and purpose of the treaty. First, except for Article IV(1), the treaty references "the moon and other celestial bodies". This phrase implies that the moon is a "celestial body". Therefore, merely referencing "celestial bodies" does not exclude the moon. Second, the reservation of the moon exclusively for peaceful purposes implies no nuclear weapons or WMD may be placed on the moon, as such placement could not be exclusively for peaceful purposes.⁶³ Third, the Outer Space Treaty derives its substantive provisions, except for Article IV, from UN General Assembly Resolution 1962 (XVIII), Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space (1963). The language of Article IV(1) is derived verbatim from UN General Assembly resolution 1884 (XVIII), Question of General and Complete Disarmament (1963). Resolution 1884 was adopted at a time when an outer space arms race of nuclear proportions between the United States and the former Soviet Union was considered a real possibility. The Resolution called upon States to "refrain from placing in orbit around the earth any objects carrying nuclear weapons or an other kinds of weapons of mass destruction, installing such weapons on celestial bodies, or stationing such weapons in outer space in any other manner".⁶⁴ Given the context of Resolution 1884, it seems preposterous to interpret the Resolution to exclude the placement of nuclear weapons or WMD on the moon. More likely than not, when the drafters included Article IV of the Outer Space Treaty, they did not feel it necessary to change the wording of Resolution 1884, hence explaining the failure of Article IV(1) to directly reference the moon.

⁶¹ *Outer Space Treaty, supra* note 9, art. IV. "States Parties to the Treaty undertake not to place in orbit or around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner. The Moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuvers on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration of the Moon and other celestial bodies shall also not be prohibited."

⁶² See Nandasiri Jasentuliyana, International Space Law and the United Nations (Kluwer Law International: Hague, 1999) at 104.

⁶³ Supra note 9, art. IV(2).

⁶⁴ General Assembly Resolution, *Question of General and Complete Disarmament*, UN GAOR, A/Res/1884 (XVIII), (1963).

Article IV(1) only prohibits the placement of nuclear weapons or WMD "in orbit". This means that Inter Continental Ballistic Missiles (ICBMs), and other weapons that only enter a sub-orbital trajectory are not subject to Article IV(1).

Weapons of Mass Destruction are not defined in the Outer Space Treaty. Mass destruction implies an element of non-discrimination in the application of destructive force. The UN Commission for Conventional Armaments advised the UN Security Council on August 12, 1948, that "weapons of mass destruction should be defined to include atomic explosive weapons, radioactive material weapons, lethal chemical and biological weapons and any weapons developed in the future which have characteristics comparable in destructive effect to those of the atomic bomb or other weapons mentioned above."⁶⁵ The United States Joint Chiefs of Staff have defined WMD as "weapons that are capable of a high order of destruction and/or of being used in a manner as to destroy large numbers of people. Weapons of mass destruction can be nuclear, biological, chemical, and radiological weapons, but exclude means of delivery of weapons where such means is a separable and divisible part of the weapons."⁶⁶

Except for the prohibition of nuclear weapons and WMD, states are free to deploy space weapons, subject to limitations and prohibitions on the scope (i.e. placement) of such weapons.⁶⁷

Scope: Deployment in Earth orbit or the "outer void space" of non-prohibited weapon types is allowed under the terms of this treaty. Deployment on the moon and other celestial bodies is prohibited.

The phrase "outer void space" was coined by Bin Cheng for the purpose of clarifying Article IV of the Outer Space Treaty and the application of relevant Treaty provisions. The "outer void space" is what Bin Cheng deems the void between celestial bodies. This distinguishes the general usage of the term "outer space", which usually includes all celestial bodies, from a more refined and limited spatial reference, the "outer void space". ⁶⁸

A careful analysis of Article IV reveals a distinction between military activity in the outer void space and military activities on the moon and other celestial bodies. Military activities, including weapon

⁶⁵ Quoting E. Galloway, "Creating Space Law", in N. Jasentuliyana, ed., Space Law in Development and Scope (Praeger: Westport, Conn., 1992) at 244.

⁶⁶ Quoting *National Military Strategy to Combat Weapons,* U.S. Chairman of the Joint Chief's of Staff (February 13, 2006) available online:

http://www.defenselink.mil/pdf/NMS-CWMD2006.pdf (date accessed: December 8, 2007).

⁶⁷ Supra note 58, "[States] can put up...any other weapon as long as it is not nuclear or capable of mass destruction."

⁶⁸ See Bin Cheng, "The 1967 Outer Space Treaty: Thirtieth Anniversary" (1998) XXIII Air & Space Law (Number 4/5) 156.

deployment, in the outer void space are not per se prohibited.

Military activities on the moon and other celestial bodies, including weapon deployment, unless undertaken exclusively for peaceful purposes are prohibited. As discussed earlier, an interpretation of "exclusively for peaceful purposes" to prohibit only aggressive military actions on the moon and other celestial bodies would emasculate Article IV(2). The question remains, what type of military activity is allowed on the moon and other celestial bodies? Does the deployment of a space weapon violate Article IV(2)?

Article IV(2) clearly prohibits "the establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military maneuvers on celestial bodies".69Military personnel are allowed on the moon and other celestial bodies "for the purpose of scientific research or any other peaceful purposes."70 This indicates that military activity is allowed on the moon so long as it is exclusively peaceful. Determining whether or not a military action is exclusively peaceful is a question of manifested intent. The deployment of a space weapon, absent an amazing set of circumstances, will manifest intent of non-exclusive peaceful purposes.⁷¹ Therefore, the prohibition against non-peaceful purposes on the moon prohibits the deployment of a space weapon on the moon. Furthermore, the deployment of space weapons on celestial bodies may be prohibited because the treaty prohibits the establishment of military bases, installations and fortifications on celestial bodies. A deployed weapon could be considered a military installation. Therefore, this freaty could prohibit the deployment of weapons on the moon or any celestial body on the grounds that such a weapon is a military base, installation, or fortification.⁷²

Secondary Considerations: The deployment of a space weapon cannot prohibit a State Party from freely accessing all areas of celestial bodies or freely exploring outer space.⁷³ A weapon placed in outer space may be challenged on the grounds that the weapon, either directly or indirectly through the show of force, denies a Party access to a celestial body (such as the Moon) or an area a State wishes to explore (such a Mars).

⁶⁹ Supra note 9, art. IV(2).

⁷⁰ Ibid.

⁷¹ Such an amazing circumstance could be the deployment of a weapon because a Near Earth Object is threatening to destroy life on Earth and the deployment of a weapon on the moon will facilitate the protection of Earth.

⁷² Supra note 9, art. $IV(\overline{2})$.

⁷³ Ibid., art. I. "The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind. Outer space, including the Moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a bases of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies. There shall be freedom of scientific investigation in outer space, including the Moon and other celestial bodies and States shall facilitate and encourage international cooperation in such investigation".

While the unresolved question of the boundary between airspace and outer space has served the interests of some space faring nations, in particular military activities, it seems quite plausible that the deployment of a space weapon within the ambiguous zone of airspace and outer space above a State may be perceived as a violation of that State's national sovereignty. While the exact boundary between air and space is not clear, it would be prudent to consider any action below the height above Earth of the lowest perigee of any existing or past artificial satellite that has orbited Earth as possibly within territorial airspace. Before deploying a weapon in this ambiguous zone, one should consider that the State perceiving a violation of national sovereignty may undertake legal, political, and/or military action in response.

In accordance with Article IX of the Outer Space Treaty, the United States is obligated to undertake "appropriate international consultations" if the United States government has reason to believe the planned deployment of a space weapon would cause potentially harmful interference with the activities of the other States Parties to the Treaty in the peaceful exploration and use of outer space, including the Moon and other celestial bodies.⁷⁴ The Treaty neither defines "potentially harmful interference" nor "appropriate international consultations". It is unclear whether the mere deployment of a space weapon is sufficient to be considered "potentially harmful interference". The United States will need to consider space weapon deployments on a case-by-case basis and in good faith whether the deployments meet the intended threshold established under Article IX. The use of a space weapon creates a much clearer scenario of potentially causing harmful inference. For example, the use of a kinetic-kill ASAT weapon in LOE (low-earth orbit) should create an orbiting space debris field. Such a field will endanger the space activities of all States in LOE, including non-belligerent States. The planned use of such an ASAT weapon, either as a test or a targeted discharge, should trigger Article IX consultation obligations.

If the United States does have reason to believe a planned activity would cause potentially harmful interference, what action will fulfill the obligation to undertake appropriate international consultation? What is appropriate will depend on the nature of the planned activity or experiment. At minimum, a State is required, prior to conducting the activity or experiment, to contact other State Parties to the Outer Space Treaty and inform them of the planned activity or experiment so that those States can take appropriate action to prevent potentially harmful interference with their activities or experiments in outer space, the Moon and other celestial bodies. The object and purpose of Article IX is guided by principles of "cooperation and mutual assistance" with "due regard to the corresponding interests of all other States Parties to the Treaty".75 Requiring the United States to contact other State Parties to the Outer Space Treaty and inform them of the planned space weapon deployment or use is a good faith interpretation of the Treaty given the terms of the

⁷⁴ Supra, note 9, art. IX.

⁷⁵ Ibid.

Treaty in their context and in the light of its object and purpose.⁷⁶ Imposing any less of an obligation would render the international consultation clause contained in Article IX ineffective and also violate Treaty principles on the exploration and use of outer space.

The United States retains jurisdiction and ownership over a deployed space weapon, if the weapon is entered on the appropriate registry.⁷⁷ Furthermore, ownership over a space weapon is not affected by its presence in outer space or on a celestial body or by its return to Earth.⁷⁸

In the event the United States employs a space weapon, the United States may be liable for damages caused to other Parties.⁷⁹

B. Limited Test Ban Treaty of 1963

The Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water (Limited Test Ban Treaty) entered into force on October 10th, 1963.⁸⁰ While not directly regulating outer space

⁷⁶ Article 31 of the Vienna Convention on the Law of Treaties (1969) states: "1. A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose. 2. The context for the purpose of the interpretation of a treaty shall comprise, in addition to the text, including its preamble and annexes: (a) any agreement relating to the treaty which was made between all the parties in connection with the conclusion of the treaty; (b) any instrument which was made by one or more parties in connection with the conclusion of the treaty and accepted by the other parties as an instrument related to the treaty. 3. There shall be taken into account, together with the context: (a) any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions; (b) any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation; (c) any relevant rules of international law applicable in the relations between the parties. 4. A special meaning shall be given to a term if it is established that the parties so intended". See also, Anthony Aust, Modern Treaty Law and Practice, (Cambridge: Cambridge University Press, 2007) at 232. The International Court of Justice considers the principles of general treaty interpretation embodied in Articles 31 and Article 32 of the Vienna Convention on the Law of Treaty (1969) to reflect customary international law. [Paraphrasing Anthony Aust].

⁷⁷ Supra, note 9, art. VIII. "A State Party to the Treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body. Ownership of objects launched into outer space, including object landed on constructed on a celestial body, and of their component parts, is not affected by their presence in outer space or on a celestial body or by their return to the Earth., Such objects or component parts found beyond the limits of the State Party to the Treaty on whose registry they are carried shall be returned to that State Party, which shall, upon request, furnish identifying data prior to their return".
⁷⁸ Ibid.

⁷⁹ *Ibid.*, art. VII. "Each State Party to the Treaty that launches or procures the launching of an object into outer space, including the Moon and other celestial bodies, and each State Party from whose territory or facility an object is launched, is intentionally liable for damage to another State Party to the Treaty or to its natural or judicial person by such object or its component parts on the Earth, in air space or in outer space, including the Moon and other celestial bodies".

⁸⁰ Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, signed at Moscow August 5, 1963, 480 UNTS 43 [Limited Test Ban Treaty]. Ratification advised by U.S. Senate September 24, 1963; Ratified by U.S. President October 7, 1963; U.S.

weaponization, the Limited Test Ban Treaty places some practical limitations on the type of space weapon that may be deployed.

Legality: This treaty does not deem the weaponization of outer space per se illegal.

Type: The Limited Test Ban Treaty does not directly place any limitations on the types of space weapons that can be deployed.⁸¹ However, this treaty does ban the explosion of nuclear weapons or nuclear devices in outer space or in the Earth's atmosphere. This creates a practical limitation on the type of outer space weapon that may be used. While this treaty does not ban the deployment of nuclear weapons in outer space, the inability to use such weapons does create a practical limitation on the type of space weapons available for use by the United States.

Scope: Applies to outer space and the Earth's atmosphere. The Treaty is silent as to whether the moon and other celestial bodies are covered by its provisions. Article 1(b) of the Treaty prohibits a nuclear explosion "in any other environment if such explosion causes radioactive debris to be present outside the territorial limits of the State under whose jurisdiction or control such explosion is conducted". Even if one reads the term "outer space" narrowly to exclude the moon and other celestial bodies, article 1(b) includes outer space because outer space is not subject to national appropriation or claim of sovereignty⁸² and should be considered an environment outside the territorial limits of the State under whose jurisdiction or control such explosion is conducted.

C. **Environmental Modification Convention of 1978**

The Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (Environmental Convention) entered into force 5th October 1978.⁸³ While the Environmental Convention does not directly regulate the weaponization of outer space, it places limitations on the type of weapons that may be used.

Legality: This treaty does not deem the weaponization of outer space per se illegal.

ratification deposited at Washington, London, and Moscow October 10, 1963; Proclaimed by U.S. President October 10, 1963.

⁸¹ *Ibid.*, art. I. "Each of the Parties to this Treaty undertakes to prohibit, to prevent, and not to carry out any nuclear weapon test explosion, or any other nuclear explosion, at any place under its jurisdiction or control: (a) in the atmosphere; beyond its limits, including outer space; or under water, including territorial waters or high seas...". ⁸² Supra, note 9, art. III.

⁸³ Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, signed in Geneva May 18, 1977 1108 U.N.T.S. 151. Entered into force October 5, 1978; Ratification by U.S. President December 13, 1979; U.S. ratification deposited at New York January 17, 1980 [Environmental Convention].

Type: The Environmental Convention prohibits any State Party from engaging in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party.⁸⁴ As used in this Convention, the term 'environmental modification technique' refers to "any technique changing the deliberate manipulation of natural processes – the dynamics, composition, or structure of the Earth, including its biota, lithosphere, hydrosphere, and atmosphere, or outer space".⁸⁵ The use of space weapons employing environmental modification techniques having widespread, long-lasting or severe effects is prohibited. The deployment of a space weapon capable of such environmental modification may be considered a violation of the principle *pacta sunt servanda*, an act in bad faith undermining the purpose and objective of the treaty.

Scope: The Scope of this Convention is universal.⁸⁶

D. 42 U.S.C.S. §2451 (2005)

42 U.S.C.S. §2451 (2005) is a Congressional declaration of policy and purpose regarding United States activities in outer space. This declaration does not directly discuss the weaponization of outer space. However, it provides guidance on how the United States should develop its space policy, including weaponization.

Legality: This declaration does not determine the legality or illegality of space weaponization. However, Congress has declared that it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind.⁸⁷ If a peaceful purpose is considered to exclude non-passive military activities, then it is the declared policy of the United States not to deploy weapons in outer space.

Type: Subject to the foregoing, the declaration does not place any direct limitations on types of space weapons that can be deployed.

Scope: The declaration does not place any direct limitation on the scope of space weapon deployment.

⁸⁴ *Ibid.,* art. I.

⁸⁵ *Ibid.,* art. II.

⁸⁶ The Convention does not define geographical limitations to prohibition of military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party. Theoretically, any environment, anywhere in the Universe, will be protected by this Treaty. However, I doubt the drafters of the treaty considered Universal or extra-terrestrial application of the Treaty.

⁸⁷ 42 U.S.C.S. §2451(a) states: "The Congress hereby declares that it is the policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind."

E. Constitution of the United States

The Constitution of the United States is the guiding legal document for all activities undertaken by the United States Government, including the weaponization of outer space.

Legality: The Constitution does not deem the weaponization of space per se illegal. Under the Constitution, a treaty regulating the weaponization of space, made under the authority of the United States, would be binding upon the United States and declared the "law of the land".⁸⁸

Types: No direct limits are placed on the types of space weapons that can be deployed. Theoretically, legal limitations may be placed by Congress or via a Treaty.

Scope: No direct limits are placed on the scope of space weapon deployment. Theoretically, legal limitations may be placed by Congress or via a Treaty.

Secondary Considerations: The issue of space weaponization and Constitutional authority raises many interesting questions. The Constitution grants to Congress all legislative authority, including the power to "make rules for the government and regulation of the land and naval forces," "to lay taxes," and "to make all laws necessary and proper for carrying into execution the foregoing powers".⁸⁹ Under the penumbra of Congressional authority, Congress appears to have the power to determine the legality of space weaponization.⁹⁰ Theoretically, Congress could declare it illegal for the United States or any person under the jurisdiction of the United States to deploy weapons in outer space. Congress has yet to test these theoretical powers, and by default, it seems that the deployment of weapons by the United States Government in outer space is legal. It is unclear to what extent Congress, the Executive, or the Judiciary can establish the legality of deploying weapons in outer space. It is equally unclear which branch of the government, and in what situation, will retain the authority to determine the legality of space weaponization. If a conflict did arise between separate branches of the government, one would need to rely on legal precedent, such as *Youngtown Sheet and Tube Co. v. Sawyer*⁹¹ to draw parallels and determine the appropriate Constitutional grants of authority.

⁸⁸ Constitution of the United States of America, art. VI.

⁸⁹ *Ibid.,* art.I (8)

⁹⁰ As a practical matter, Congress need not declare space weaponization illegal to effectively terminate US activity. By exercising her power of appropriation, as granted under Article I(8) of the Constitution, Congress may choose not to fund space weapons programs.

programs. ⁹¹Youngtown Sheet and Tube Co. v. Sawyer 343 U.S. 579 (1952). Youngtown is considered a preeminent case on the issue of Congressional and Executive Constitutional authority. United States jurisprudence is rich with Supreme Court cases dealing with issues relating to Constitutional authority and the separation of powers. Unfortunately, a full examination of this fascinating subject is not practicable given the scope of this article.

F. The United Nations Charter and Principles of International Law

The United States is a member of the United Nations. This implies that the United States is subject to the Charter of the United Nations.⁹² Any exploration or use of outer space, the Moon and other celestial bodies, must be done in accordance with international law and in the interest of maintaining international peace and security and promoting international cooperation and understanding.⁹³ The deployment of a space weapon may raise issues regarding the threat of the use of force and the doctrine of pre-emptive self-defense.

Legality: The deployment of weapons in outer space is not per se prohibited under the UN Charter and principles of international law.

Type: No State is known to have placed a nuclear weapon of WMD in Earth orbit or outer space. An argument exists that the prohibition against the placement of nuclear weapons or WMDs in Earth orbit has achieved the status of customary international law as a result of consistent State practice and *opinion juris*.

Scope: The UN Charter and principles of international law apply universally.⁹⁴

Secondary Considerations: Article 2(4) of the United Nations Charter requires all Members to "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". It is possible that the deployment of a space weapon may be viewed by certain States as violating article 2(4) of the UN Charter. Therefore, depending on the location, type, and capability of a deployed space weapon, coupled with the perceived intent of use, the UN Charter and international law may be violated.⁹⁵ In response to the placement of a space weapon which is viewed as a violation of the UN Charter and international law, States may turn to article 51% of the UN Charter as legal authority to support an act of

⁹² Ibid., art. III "States Parties shall carry on activities...in accordance with international law, including the Charter of the United Nations".

⁹³ See Ibid.

⁹⁴ No spatial limit is placed on the application of the U.N. Charter. In addition, Article III of the *Outer Space Treaty* incorporates the U.N. Charter and international law into the exploration and use of outer space.

⁹⁵ International law has yet to firmly set a boundary of vertical airspace for national sovereignty. This may raise a serious legal question if a space weapon is placed in a location where a contesting State claims national sovereignty.

⁹⁶ Charter of the United Nations, art. 51. "Nothing in the present Charter shall impair the inherent right of individual or collective self-defense if an armed attack occurs against a Member of the United Nations, until the Security Council has taken measures necessary to maintain international peace and security. Measures taken by Members in the exercise of this right of self-defense shall be immediately reported to the Security Council and shall not in any way affect the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary in order to maintain or restore international peace and security".

self-defense against the State that deployed the space weapon.

G. The Registration Convention of 1974

The Convention on the Registration of Objects Launched into Outer Space (Registration Convention) entered into force 15th September 1976.⁹⁷ The Registration Convention does not regulate the weaponization of outer space, but does create a duty to register space objects (including weapons) if launched into Earth orbit or beyond. A distinction exists between launching a space weapon, deploying a space weapon, and employing a space weapon. It is possible for space weapons to be deployed in a variety of locations, such as on Earth, in Earth orbit, in high attitude airspace, on celestial bodies, and in the outer void space. The deployment of a space weapon does not trigger obligations under the Registration Convention. The launching of a space weapon into Earth orbit or beyond (where the space weapon can be deployed) does trigger Registration Convention obligations.

Employing a space weapon is the action of use that takes the weapon out of deployment and into operation. Theoretically, deployment and employment may occur almost simultaneously. Confusion arises when term "launch" is used outside of the context of the Convention. Outside the Convention, the term launch is used to refer to the firing of weapons (i.e., employment). Usually, the launch of a missile or other weapon from the Earth's surface follows a sub-orbital trajectory to another terrestrial location. However, it is possible for a space weapon to be fired from Earth into an Earth orbital trajectory or beyond. If the space weapon is fired and not simply deployed for later use, the Convention may technically apply. However, this seems manifestly absurd and may be deemed outside the scope of the Convention.

Legality: Article II of the Registration Convention requires registration of any space object launched into Earth orbit or beyond by the launching state.⁹⁸ The Convention partially defines space object as "component parts of a space object as well as its launch vehicle and parts thereof".⁹⁹ A space weapons system, either as an independent object or as an integrated system with a larger object, should fall within the definition of a space object if the space weapon is launched into Earth orbit or beyond.

The Convention does not define "launched". Therefore, it is unclear whether the Convention applies only to launches conducted from Earth or whether the Convention also applies to launches conducted on celestial bodies or from the outer void space.

If a space weapon is launched into Earth orbit or beyond, the

⁹⁸ *Ibid.*, art. II(1).

⁹⁹ *Ibid.,* art. I(b).

⁹⁷ Convention on the Registration of Objects Launched into Outer Space, signed in New York January 14, 1975, 1023 U.N.T.S. 15. Entered into force September, 15 1976.

launching State must register the object by means of an apporpiate registry which it shall maintain.¹⁰⁰ If the space weapon is launched by more than one State, article II(2) allows for the joint launching States to determine which State shall register the object.¹⁰¹ Article VII incorporates international intergovernmental organizations, like the European Space Agency, into the Registration Convention if the organization declares its acceptance of the rights and obligations prescribed thereunder.¹⁰²

Article IV requires States to submit "as soon as practicable" to the Secretary-General a report on each space object carried on their registries.¹⁰³ There is no exclusion for space objects launched for military purposes. The report must include the name of launching State or States, an appropriate designator or registration number, date and territory of launch, basic orbital parameters, and the general function of the space object. Practically, this report need not reveal the true nature of the mission and States can conceal whether or not a registered object is a space weapon.¹⁰⁴ Also, States can delay submitting the report until it is deemed "practicable".

Type: Convention applies to any object launched into Earth orbit or beyond.

Scope: The Convention clearly applies to terrestrial based launches. Whether or not the scope of the Convention extends to non-terrestrial launches is unclear. In theory, a space weapon built in the outer void space or on a celestial body may not be considered as having been launched and therefore not subject to the registration requirements under this Convention.

V. Clarification of Intent and Dispute Resolution

The question of whether to weaponize outer space, and if weaponized, to what degree, is of paramount importance to the national security of the United States. Under the current law, the United States can deploy weapons in outer space. Legal limitations do exist on the type of weapons that may be deployed and the scope of such deployment. In some instances, the extent of these limitations is unclear. This lack of clarity may lead to a dispute which threatens the peace and security of the international community.

Such a dispute may occur if space weaponization activities are conducted within the lacunae of the current space law regime. States may perceive that their national sovereignty has been violated if space

¹⁰⁰ *Ibid.,* art. II(1).

¹⁰¹ *Ibid.,* art. II(2).

¹⁰² *Ibid.,* art. VII.

¹⁰³ *Ibid.*, art. IV(1).

¹⁰⁴ *Supra*, note 55, at 489. "All they are obliged to do, according to the key Article IV, is to submit their reports "as soon as practicable", containing information designed *not* to reveal the true nature of the mission." [Vlasic]

weaponization activities occur in the ambiguous zone between airspace and outer space. Weapon deployments in low-Earth orbit may be challenged on a variety of legal grounds, including violation of the principles of freedom and use expressed in article 1 of the Outer Space Treaty. Deployment of nuclear weapons or WMD on the Moon may be challenged on the grounds that Article IV(1) of the Outer Treaty prohibits such activity.

Even if space weaponization activities are taken within legal boundaries not subject to conflicting interpretation, the intent of weaponization activities may not be clear and could cause consternation among the international community. In his essay *Safe Heavens: Military Strategy and Space Sanctuary*, David. W Zeigler aptly speaks to the issue of perceived intent and United States weaponization activities:

In general, the United States tends to underestimate how its actions affect the security dilemma and international balance. The United States sincerely believes its actions are categorically peaceful and are perceived as such by other nations. However, this is not the way the rest of the world – including allies – always view the United States. In a multipolar world, the United States is the single most powerful competitor. This distinction naturally impels other nations to observe the United States with at least some suspicion.¹⁰⁵

If the United States maintains the position that its actions in outer space, including any programs of weaponization, are purely for non-aggressive purposes, it may be to its advantage to provide a greater degree of transparency in its activities than is currently required under international law.

The current legal regime requires little, if any, transparency and provides hardly any mechanisms for dispute resolution. The reporting requirements established under the Registration Convention provide very little transparency, allowing States to effectively conceal whether or not a registered object is a space weapon.¹⁰⁶ The Outer Space Treaty does provide for the application of international law and the United Nations Charter. Thus, in case of a dispute relating to outer space weaponization, in accordance with article 2(3) of the Charter, States are obligated to negotiate in good faith under article 33 of the Charter.¹⁰⁷ However, in the event that negotiations fail, few other methods of dispute resolution are available. While article IX of the Outer Space Treaty calls for international consultations, it is unclear whether the deployment of a space weapon alone triggers this obligation and even if it does, to what extent such

¹⁰⁵ David Zeigler, "Safe Heavens: Military Strategy and Space Sanctuary" in Bruce M. DeBlois, ed., *Beyond the Paths of Heave: Emergence of Space Power Thought* (Air University Press: Maxwell, Alabama, 1999) at 226.

¹⁰⁶ *Ibid.*, at 104.

¹⁰⁷ Nandasiri Jasentuliyana, International Space Law and the United Nations (Kluwer Law International: Hague, 1999) at 218.

consultations are to be taken.

For these reasons, this author calls upon the United States to support the creation of a legal agreement that provides for greater transparency in space activities and establishes a space weaponization dispute resolution mechanism. This agreement should achieve the following:

- 1. Strengthen the Registration Convention reporting requirements. The ability of States to conceal the location and function of registered space objects should be inhibited by requiring registries to contain more detailed information. Reports to the Secretary-General should be furnished within a specific period of time, eliminating the ability of States to delay.
- 2. Allow States engaged in space weaponization to clarify the purpose and intent of their activities. This may come in the form of "notices of intent" filed with registration reports that explain why a State has undertaken a particular space weaponization activity.
- 3. Provide a forum through which States may request information and clarification of space weaponization activities. In this forum, States can raise perceived violations of applicable law, request treaty obligations be fulfilled, and call for negotiations.
- 4. Establish a body that facilitates communication and negotiations for the purposes of preventing weaponization and removing weaponization systems already deployed.
- 5. Establish a legal mechanism to resolve disputes over the interpretation and application of the Outer Space Treaty, in particular as it relates to space weaponization. This dispute resolution mechanism could be three-tiered. The first-tier would allow for private mediation, similar to the consultation provisions of the Moon Treaty.¹⁰⁸ The second-tier would be binding arbitration, subject to appeal. The third-tier would be the International Court of Justice, or other judicial body, whose decisions would be final and binding. The United Nations Security Council would be the appropriate body to enforce the decision.

A careful reading of the Outer Space Treaty reveals a document of principles designed to guide States in their exploration and use of outer space. These principles provide a basis from which States can reason their conduct. Principles are also open to interpretation and can be flexibly applied, allowing for some degree of evolution in the law. However, when applied to specific situations, principles alone may not be sufficient to determine what action is or is not appropriate. In the fields of liability, registration, rescue, and lunar activities, States have implemented new legal agreements that further clarify the principles in the Outer Space

¹⁰⁸ See art. 15 of the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies ("Moon Treaty"), signed 18 December, 1979, entered into force 11 July 1984, 1363 UNTS 3. The United States is not a party to this treaty.

Treaty and provide for more detailed rules governing State action.¹⁰⁹ In the field of space weaponization, no legal agreements have been implemented that build upon the principles of the 1967 Outer Space Treaty. This may be attributed a lack of consensus among States, in part derived from the concerns of some States that greater clarification of these principles would inhibit their ability to undertake military activities in outer space. States may be willing to support a dispute resolution mechanism because implementing the mechanism would not require a consensus on the interpretation of space weaponization principles. Instead, the clarification of principles would occur on an evolutionary basis within the framework of the proposed legal agreement.

The goals outlined above are not outside the scope of political reality, for they attempt to strike a balance between idealism and pragmatism.¹¹⁰ All nations, whether or not they have deployed or have the capacity to deploy space weapons, have an interest in the peaceful development of outer space. At the same time, States have an incentive to weaponize outer space because the absence of a diplomatic sovereign to arbitrate international conflicts means that States must rely upon their own strength for protection.¹¹¹ A spiraling cycle of weaponization can only be prevented if States are more transparent with their activities, clear on the intent and purpose of their activities, willing to negotiate, and have an effective legal means to resolve disputes.

Conclusion VI.

This infantile state of space law presents awesome opportunities for the United States to impact the future development of outer space. As the world's leading space power, any actions the United States takes within the field of outer space weaponization will have serious influence amongst the world community. While the United States does have the legal right, within certain legal parameters, to weaponize outer space, I urge the United States to take a leading role in the negotiation of a legal agreement that will allow for greater transparency in space weaponization activities and establish a space weaponization dispute resolution mechanism.

¹⁰⁹ The Liability Convention, the Rescue Convention, the Registration Convention, and the Moon Treaty, all expound upon principles established in the initial Outer Space Treaty. The Liability Convention finds her roots in art. VII, the Rescue Convention from art. V of, the Registration Convention from art. VIII, and the Moon Treaty from Arts. I, II, III, IV, and VI of the Outer Space Treaty. $^{110}\,$ As spoken by Theodore Roosevelt: "Keep your eyes in the stars and your feet on the

ground".

¹¹¹ *Supra* note 105, at 244.



SHORTER ARTICLES AND COMMENTS

DES ARTICLES PLUS COURTS ET COMMENTAIRES D'ARRÊTS