WAR ON THE FINAL FRONTIER: CAN TWENTIETH-CENTURY SPACE LAW COMBAT TWENTY-FIRST-CENTURY WARFARE?

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I. INTRODUCTION

Moving into the 21st century, advances in technology have shifted the landscape of modern warfare, making space the next frontier for military exploitation.¹ Knowing the vital role space will play in the future of warfare, spacefaring nations have rushed to stake their claims in the vast beyond, hoping to obtain

* J.D. Candidate, 2017. This comment received the Antroy Arreola Award for Outstanding Comment in International Law.

¹ See Jackson Maogoto & Steven Freeland, The Final Frontier: The Laws of Armed Conflict and Space Warfare, 23 CONN. J. INT’L L. 165, 167-70 (2007) (discussing the current space threat and actions being taken to weaponize space by various countries).
their piece of the ultimate high ground. However, much like the westward expansion of the United States, expansion into outer space is fraught with the dangers of lawlessness that could destabilize the global community and spark an international arms race.

The battle for space began in the 1950s with the Soviet launch of Sputnik I (Sputnik), and since then there has been a manic race to gain space superiority. The genesis of Sputnik ultimately culminated in the first treaty governing the use of space called the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, or commonly known as the Outer Space Treaty.

Since the signing of the Outer Space Treaty in 1967, differing interpretations of the Outer Space Treaty have resulted in many different approaches in carrying out the treaty, rendering it almost powerless to ensure a non-militarized space. Furthermore, with the technological advances made in the past 40 years, the potential use of space for strategic military

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3. See id. (commenting on how placing weapons in outer space would “build walls of distrust and suspicion” and result in the proliferation of less space-advanced countries seeking to acquire greater military ability in space).


advantages is a pressing threat to the global community that must be addressed in order to curb an extraterrestrial arms race.\(^7\) Of particular concern is the testing of antisatellite weaponry, which, if used, could have a catastrophic impact on the global economy and current warfighter technology.\(^8\) Over the last ten years, several new potential treaties and agreements have been proposed. However, because the countries with the greatest space capability recognize that space supremacy is what will be the ultimate factor in determining future military power, the current proposals have failed to materialize into an agreement of any real potential for international acceptance.\(^9\)

This comment will explore the history of space agreements, the shortcomings of the current legal regime governing the international use of outer space, and document the space threats that have arisen as a result of the inadequate legal framework for dealing with a global community that is now far more technologically advanced than the time when the Outer Space Treaty was ratified. After identifying the current threats, this comment will discuss the most recent proposals to deal with the growing threats associated with space and point out key problems with any agreements currently in place. Lastly, this comment will try to identify potential solutions to these problems that could work to deter a devastating arms race that would destabilize the global community and potentially result in unnecessary conflict.

II. HISTORY OF SPACE AGREEMENTS

The battle for space began in October 1957 after the Soviet’s launch of Sputnik. The launch shocked the West, spreading alarm and prompting a space race that the global community hoped to temper with the creation of the United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS).\(^{10}\) UNCOPUOS is

\(^{7}\) Id. at 1137, 1158.


\(^{9}\) See Kuplic, supra note 6, at 1157 (discussing the United States’ resistance to measures meant to prevent arms race and denying existence of arms race).

\(^{10}\) G.A. Res 1472 (XIV) at 5 (Dec. 12, 1959); Kuplic, supra note 6, at 1128; Gregory Feifer, Sputnik’s Designers Didn’t Fathom Its Impact, NPR (Oct. 4, 2007, 11:47 AM), http://
the primary vehicle for negotiating multilateral agreements relating to outer space, and currently has 83 member states as of 2015, including the primary space players: the United States, China, and Russia. The most important agreement reached through this body was the Outer Space Treaty.

The Outer Space Treaty is the foundational space treaty that serves as the “constitution” for international space activity and provides the framework for the present day legal regime regulating outer space. The Outer Space Treaty, entered into force on October 10, 1967, has been ratified by 89 countries, and was created for the purpose of fostering an environment of international cooperation in scientific and exploration endeavors in space.

Aiming to foster an environment of mutual cooperation among participating nations, the Outer Space Treaty provides that the exploration and use of outer space “shall be carried out for the benefit and in the interest of all countries.” Furthermore, the Outer Space Treaty establishes that outer space is free for exploration and scientific investigation by all States and the States shall facilitate and encourage international cooperation in


13. Kuplic, supra note 6, at 1128 (asserting that the Outer Space Treaty has served as the basic framework of outer space law and is referred to as the “constitution” and “Magna Carta” of outer space); Kopal, supra note 12 (stating that the Outer Space Treaty established the framework for the present outer space legal regime).


15. Outer Space Treaty, supra note 5, art. I.
these endeavors.\textsuperscript{16}

Article IV of the Outer Space Treaty addresses the military use of space.\textsuperscript{17} The provision states that the moon and other celestial bodies shall be used by all participating parties exclusively for peaceful purposes.\textsuperscript{18} Further defining the contours of the provision, the Outer Space Treaty forbids the establishment of military bases on celestial bodies and does not allow celestial bodies to be used for testing of weapons of any type.\textsuperscript{19} Article IV also addresses the nuclear weapon concern at the time of drafting, stating that States shall not place nuclear weapons or any other weapon of mass destruction in space in any manner.\textsuperscript{20}

\section*{III. SHORTCOMINGS OF THE CURRENT LEGAL REGIME}

As ambitious and admirable as the Outer Space Treaty is in its attempt to secure the peaceful use of space, it is fraught with ambiguities that cripple its effectiveness and prevent it from carrying out its purposes in a time that needs it most.\textsuperscript{21} Perhaps the biggest obstacle in maintaining a peaceful use of space is the term “peaceful purposes” in Article IV.\textsuperscript{22} The Outer Space Treaty, along with other international space law treaties, fail to provide a conclusive definition of the term.\textsuperscript{23}

\begin{thebibliography}{9}
\item 16. Id.
\item 17. Id. art. IV.
\item 18. Id.
\item 19. Id.
\item 20. Compare NASA, supra note 4 (commenting that the United States feared that the Soviets’ ability to launch Sputnik translated into the capability to launch ballistic missiles carrying nuclear weapons), with Outer Space Treaty, supra note 5, art. IV (providing that no Party can undertake placing in orbit any object carrying nuclear weapons or station such weapons in space in any other manner).
\item 22. Outer Space Treaty, supra note 5, art. IV; Petras, supra note 21, at 168.
\item 23. Petras, supra note 21, at 168.
\end{thebibliography}
The initial interpretation of “peaceful purposes,” accepted by both the United States and the Soviet Union at the Outer Space Treaty’s inception, was “non-military.” This “non-military” interpretation was supported by the fact that the phrase “peaceful purposes” in the Outer Space Treaty was derived from the 1959 Antarctic Treaty, which served as a significant model for the Outer Space Treaty. Article I of the Antarctic Treaty states “Antarctica shall be used for peaceful purposes only.” The Article’s subsequent sentence then prohibits the use of Antarctica for “any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military maneuvers, as well as the testing of any type of weapons.” Because the Outer Space Treaty and the Antarctic Treaty use the same “peaceful purposes” language, it is plausible to assume that the “peaceful purposes” language in the Outer Space Treaty was designed to entail the Antarctic Treaty’s provision prohibiting the use of Antarctica for any use that is military in nature.

Even though the Soviets maintained that all military activities in space were not peaceful and possibly unlawful, they continued to send military payloads into space and became increasingly dependent on space technology for military planning. These actions by the Soviets ultimately prompted the United States to modify its interpretation of “peaceful purposes” from “non-military” to “non-aggressive.” By interpreting “peaceful purposes” to mean “non-aggressive,” the United States was able to conduct activities in space so long as the activities did not violate Article 2 of the UN Charter which prohibits the “threat or use of force.” As time progressed, the Soviets and other member states abandoned the initial interpretation of “peaceful purposes” through their space activities and lack of formal

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25. Petras, supra note 21, at 168.
27. Id.
28. Petras, supra note 21, at 168.
29. Id. at 171.
30. Id. at 169-71.
protests regarding other countries’ military use of space, demonstrating that space could be used for military purposes.\[^{32}\] Currently, the meaning of “peaceful purposes” is generally accepted by the majority of member States to mean “non-aggressive,” with the United States maintaining that all States possess the right to defend themselves against threats in outer space.\[^{33}\]

IV. THE DEVELOPMENT OF ANTI-SATELLITE TECHNOLOGY

Within weeks of the Soviet’s launch of Sputnik, the United States was already working on the first concepts of Anti-Satellite (ASAT) technology.\[^{34}\] In the years since, Russia, China, and the United States have all participated in developing ASAT technologies, with India also expressing ambitions to develop an ASAT weapon.\[^{35}\]

The threat of ASAT weapons has become an increasingly important issue as spacefaring countries have become increasingly dependent on satellite technology for critical sectors, like the military, economic, and energy sectors.\[^{36}\] This increasing dependence on satellite technology has resulted in satellites becoming a prime target for military adversaries.\[^{37}\]

However, while we have seen an evolution in satellite and counter-satellite technology in the years since Sputnik, the Outer Space Treaty has proven ineffective to deal with the growing

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32. Petras, supra note 21, at 169-71; see Kuplic, supra note 6, at 1157 (describing how the United States was unwilling to develop formal protest mechanisms within the United Nations).
ASAT problem and no new developments in international space law have materialized to deal with this growing threat to global stability.\(^{38}\)

One of the primary problems preventing the Outer Space Treaty from effectively preventing the escalating problem of ASAT technology is that—regardless of whether a country adopts a “non-military” or “non-aggressive” view of “peaceful purposes”—countries can still employ the use of ASAT technology without violating the treaty.\(^{39}\) Regarding the use of space other than the moon and other celestial bodies, the Outer Space Treaty only prohibits States from placing in orbit any objects carrying nuclear weapons or any other weapons of mass destruction.\(^{40}\) An ASAT, however, falls under neither of these categories.\(^{41}\) With regard to other military activity and the use of space, the Outer Space Treaty only requires that the moon and other celestial bodies must be used for peaceful purposes.\(^{42}\) Countries can develop, and have developed, ground-based ASAT technologies that can fire anti-satellite weaponry from earth.\(^{43}\) The failure of the Outer Space Treaty to address technologies such as ASATs has resulted in a glaring gap in the coverage of the Outer Space Treaty—it does not prevent the use of weapons in space that are not weapons of mass destruction and are not used on the moon or other celestial bodies.\(^{44}\)

Countries have exploited this gap since 1963 when the

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41. Halpern, *supra* note 21, at 186-87 (stating an ASAT is neither a nuclear weapon nor a weapon of mass destruction).
42. Outer Space Treaty, *supra* note 5, art. IV, para. 2.
44. Halpern, *supra* note 21, at 180, 208.
Russians began initial testing on the Istrebitel Sputnikov (IS), a co-orbital anti-satellite weapon that intercepts orbiting satellites as they pass over the ASAT’s launch site. The IS is equipped with an onboard radar system that guides an interceptor within tens of meters of the target and detonates, damaging the satellite overhead with shrapnel. In the years subsequent to the IS launches, the Russians have continued to develop and test ASAT technologies. Perhaps most concerning to the international community was Russia’s launch of the Kosmos 2499 in May 2014.

The Russians launched the Kosmos 2499 stealthily, as part of a routine and innocuous Rodnik commsat launch, which customarily consisted of only three Rodnik satellites being launched. However, after a May 2014 commsat launch, a fourth


46. GREGO, supra note 35, at 3.

47. See, e.g., Weeden, supra note 45, at 31-32 (stating that during the mid-1980s, the Soviets developed a second co-orbital ASAT, “Naryad,” that was capable of placing kill vehicles in orbits as high as around 24,000 miles).


object was detected that the United States initially classified as debris.\textsuperscript{50} However, shortly thereafter, the United States observed the object making unusual maneuvers, including maneuvering into other orbits and rendezvousing with the rocket launching the satellite into orbit.\textsuperscript{51} Some experts have hypothesized that the unidentified maneuvering object may be an inspector satellite.\textsuperscript{52} An inspector satellite is a satellite that can maneuver close to other satellites in order to photograph, service, repair, or refuel a satellite in orbit.\textsuperscript{53} However, inspector satellites could also potentially be used for more hostile purposes.\textsuperscript{54} The concern with these maneuvering satellites is that they are able to maneuver dangerously close to other satellites, potentially leaving enemy satellites vulnerable to disabling and eavesdropping.\textsuperscript{55}

ASAT capabilities such as those displayed by the Kosmos 2499 are especially concerning to the United States because the United States' modern military capabilities are highly dependent on satellite technology.\textsuperscript{56} Compounding the threat to satellites is the fact that current U.S. satellites are relatively soft targets—they lack substantive ability to defend against attacks, leaving the United States highly susceptible to a debilitating satellite attack that would result in an enormous degradation of military

\begin{enumerate}
    \item Id.
    \item Id.; Sam Jones, \textit{Object 2014-28E – Space Junk or Russian Satellite Killer?}, FIN, TIMES (Nov. 17, 2014, 6:17 PM), http://www.ft.com/intl/cms/s/2/cdd0bd66-6c27-11e4-990f-00144feabd0.html#axzz23JQ77sncr [http://perma.cc/FJ2J-JJ5Q] (speculating that the unidentified object may be capable of interacting with other satellites in either a peaceful or hostile manner).
    \item Rincon, supra note 50; Jones, supra note 52.
    \item See Rincon, supra note 50 (asserting that the technology in an inspector satellite could potentially be used as an anti-satellite weapon); see also Jones, supra note 52 (stating that the satellite could potentially be capable of conducting a cyber-attack or jamming communications).
    \item See Rincon, supra note 50 (stating that a satellite inspector could eavesdrop or jam communications).
    \item See Frank M. Walsh, \textit{Forging a Diplomatic Shield for American Satellites: The Case for Reevaluating the 2006 National Space Policy in Light of Chinese Anti-Satellite System}, 72 J. Air L. \\& COM. 759, 771 (2007) (explaining how satellites serve as the foundation for the modern networked American military by enabling it to “fuse its land-based conventional power projection capabilities with its space-based communications, navigation, and reconnaissance capabilities”).
\end{enumerate}
capability.57

The Chinese have also been active in developing ASAT technology.58 In 2007, China launched a ground-based missile into space that directly hit and destroyed an aging weather satellite.59 This was particularly concerning because the test demonstrated that the Chinese had developed the capability of targeting U.S. spy satellites and space-based missile defense systems.60

More recently, in July 2014, China raised even greater global alarm after conducting what the United States believes was an ASAT test that resulted in a Chinese anti-satellite missile reaching geosynchronous orbit.61 This test was of particular concern to the United States because geosynchronous orbit is where Air Force missile warning and nuclear command and control satellites are located.62 If the satellites are now at risk, this would be a surprise to the U.S. military that had always believed there was no significant threat to those satellites.63 The Chinese test was just one of six conducted over the past nine years.

57. See Koplow, supra note 34, at 1200 (noting that satellites make “excellent targets” because they are few in number, travel in predictable orbital paths, lack the ability to defend themselves from attack, and are expensive).
59. Kaufman & Linzer, supra note 43.
62. Gruss, supra note 58.
and is viewed as part of a continuing effort by China to attain military dominance at sea and in the air.64

The United States has also been involved heavily in developing ASAT technology.65 In June 1982, the United States announced that it would be developing an ASAT weapon that could be launched by an F-15.66 By launching from an F-15, the United States could attack satellites in orbit without the limitations of ground based ASATs that require the target satellite’s orbital plane to be overhead.67 In 1985, the United States tested this new ASAT technology by destroying an aging satellite orbiting at an altitude of 555 km.68

U.S. interest in ASAT capabilities reemerged in the early 2000s when the United States began deploying satellite jamming systems and fielding missile defense interceptors with the ability to target most low-orbiting satellites, even proposing a space-based missile defense system that would have likely contained ASAT capability.69 During the Bush administration, funding was increased to develop space technologies that would give the United States greater ability to track space objects, create new launch and propulsion technologies, and provide high-energy laser technologies.70 This increased emphasis on space technology development resulted in the United States gaining significant capability in satellite jamming, satellite maneuvering, and ground-based lasers that have the ability to hit satellites in orbit and damage or blind the satellites, inhibiting

65. See Alex B. Englehart, Common Ground in the Sky: Extending the 1967 Outer Space Treaty to Reconcile U.S. and Chinese Security Interests, 17 PAC. RIM L. & POL’Y J. 133, 134-37, 154-55 (2008) (suggesting that a comprehensive ban on all space weapons would be unacceptable to the United States due to its heavy investment in various types of military support satellites, including ASAT technology); see also GREGO, supra note 35 at 1-2, 4, 8 (summarizing the United States’ history in developing ASAT technologies).
67. Id. at 4-5.
68. Id. at 5.
69. Id. at 8-11.
70. Id. at 8.
satellite functioning during the early part of the 21st century.\footnote{Id. at 9-11.}


V. OTHER DEVELOPMENTS IN SPACE WEAPONRY

Currently, the United States is the global leader in the race to capitalize on new military technologies in space.\footnote{Billings, \textit{supra} note 48; Mike Wall, China’s Space Advances Worry US Military, SPACE.COM, (Feb. 28, 2016, 10:21 AM), http://www.space.com/14697-china-space-program-military-threat.html [http://perma.cc/EYG7-VEGT].} Because of the United States’ current space technology superiority, other large global powers, such as China and Russia, have begun to aggressively pursue military space programs to limit the advantage enjoyed by the United States.\footnote{Billings, \textit{supra} note 48; \textit{see also} Wall, \textit{supra} note 76 (explaining that China is mounting a genuine threat to the United States’ space dominance and that both Russia and China continue to progress in developing systems and technologies that may interfere with or disable various U.S. satellites).} Due to the increase in spending among major global powers, a plethora of new technologies are being developed that could have a devastating

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71. Id. at 9-11.
75. Listner, \textit{supra} note 72.
77. Billings, \textit{supra} note 48; \textit{see also} Wall, \textit{supra} note 76 (explaining that China is mounting a genuine threat to the United States’ space dominance and that both Russia and China continue to progress in developing systems and technologies that may interfere with or disable various U.S. satellites).
effect on global stability. Some of the dangerous new technologies prompting international concern include kinetic energy and hypervelocity weapons, particle beam weapons, and electromagnetic and radiation weapons.

Kinetic energy weapons use physical objects shot from Earth with the intent of intercepting space targets by colliding with the target in a high speed impact. Kinetic weapons have historically been the most common form of space weaponry, but resulting debris lingering in space for long periods of time after a kinetic weapon destroys a target has resulted in kinetic weapons being an undesirable method for destroying space targets. Seeking to mitigate the space shrapnel problem, the United States began developing the KE-ASAT (kinetic energy ASAT) in 1989. The KE-ASAT is unique to previous kinetic energy ASATs in that it incorporated the use of a mylar shroud to limit the amount of space debris.

Another concerning technology involving kinetic energy is the development of hypervelocity rod bundles of tungsten cylinders commonly known as “Rods from God.” These rods, launched into space and fired from satellites, would have the ability to hit a target anywhere on Earth with 15 minutes notice and the

78. See Chris Buckley, America Blamed for Space Arms Race, SYDNEY MORNING HERALD (June 3, 2008), http://www.smh.com.au/news/world/america-blamed-for-space-arms-race/2008/06/02/1212258741812.html?_r=0 (discussing China’s aggressive effort in honing its ability to shoot down satellites and concerns that outer space will become a stage for struggle between countries); Billings, supra note 48 (detailing how the Obama administration budgeted over $5 billion to be spent in the next five years to enhance the capabilities of the military space program).

79. Ramey, supra note 33, at 21-22 (discussing the dangers of kinetic and hypervelocity weapons, particle beam weapons, and electromagnetic and radiation weapons).


83. Id.

capability of penetrating deep into the earth without any explosives. While physicists have noted problems with the program, including the lifting of heavy tungsten rods into orbit, the Air Force has displayed interest in further developing the technology, as evidenced by the inclusion of the project in the Air Force’s “Transformation Flight Plan” of future system concepts.

Particle beam weapons are directed energy weapons that deliver a high-energy current at the speed of light. They destroy targets by transferring thermal energy to the target like a lightning bolt. The United States has been engaged in developing particle beam technology since as early as 1958, when the United States tested the use of particle beams for ballistic missile defense. Today, weaponized use of particle beams still requires significant technological gains across a multitude of difficult areas, but if successfully completed, particle beam technology could provide significant space advantages in warfare. Particle beam technology can be used to quickly strike anywhere in the world regardless of weather conditions, giving the possessing country a sizable military advantage, particularly in time-urgent military engagements.

Electromagnetic and radiation weapons, such as nuclear bombs and electromagnetic pulse weapons, also pose a significant threat as the world becomes more space warfare oriented. A nuclear weapon detonated in space presents far less consequences than traditional methods of atmospheric deployment. First,

85. Id.; Englehart, supra note 65, at 136.
86. Shainin, supra note 84.
90. Ramey, supra note 33, at 25-26; Roberds, supra note 88.
91. See Clay Wilson, Cong. Research Serv., RL32544, High Altitude Electromagnetic Pulse (HEMP) and High Power Microwave (HPM) Devices: Threat Assessments 8 (2004) (reporting that an EMP attack may create an incentive for other countries to develop or acquire nuclear capability).
because of the vacuum conditions in space, the nuclear blast transmits far less radiation and heat than it would with traditional deployment.\textsuperscript{92} Because the shockwaves, torrential winds, and extreme heat resulting from a nuclear explosion within the atmosphere do not occur in space, the bomb’s after-effects are relatively easy to confine to target locations.\textsuperscript{93}

The primary threat associated with a high-altitude electromagnetic pulse attack, such as a nuclear weapon being detonated high above the Earth’s surface, is a resulting gamma-radiation interaction with the atmosphere that would create an electromagnetic energy field that would devastatingly damage electronic equipment.\textsuperscript{94} As an electromagnetic pulse radiates outwards, spanning distances up to thousands of miles, catastrophic damage would be incurred by computer circuitry, vehicles, communications equipment, and the nation’s electricity grid.\textsuperscript{95}

\section{VI. Space Law After the Outer Space Treaty}

In addition to the adoption of the Outer Space Treaty in 1967, there have been four space treaties adopted and a series of arms control treaties promulgated to govern the growing problems associated with spacefaring nations’ increasing ability to utilize space.\textsuperscript{96} The treaties that elaborate the Outer Space Treaty include: the Astronaut Rescue Agreement of 1968, requiring the safe return of astronauts to their home country; the Liability Convention of 1972, establishing methods to determine liability when a country damages or destroys space objects belonging to another country; the Registration Convention of 1976, requiring countries to log in a registry what space objects the country is launching into space; and the Moon Agreement of 1984,

\begin{thebibliography}{9}

\bibitem{92} Ramey, \textit{supra} note 33, at 19.
\bibitem{93} \textit{Id.} at 19-20.
\bibitem{94} \textit{Wilson, supra} note 91, at 3.
\bibitem{95} \textit{Id.;} Sharon E. Burke & Emily Schneider, \textit{Who’s Afraid of the Big Bad Pulse?}, \textit{Slate} (July 2, 2015, 11:54 AM), http://www.slate.com/articles/technology/future_tense/2015/07/emp_threats_could_an_electro_magnetic_pulse_weapon_wipe_out_the_power_grid.html [http://perma.cc/D8E3-ENCU].
\end{thebibliography}
reaffirming and elaborating on the Outer Space Treaty’s position that the moon and other celestial bodies are to be exclusively used for peaceful purposes.97

Arms control treaties also adopt additional limitations on the military use of space.98 The Strategic Arms Limitation Talks (SALT I) were the first substantial arms control agreements between the United States and the Soviet Union.99 The SALT I discussions culminated in the Anti-Ballistic Missile Treaty in 1972.100 The treaty did not allow the development, testing, or deployment of sea, air, space, or mobile land-based anti-ballistic systems or components in an attempt to control the nuclear arms race.101 After thirty years of the Anti-Ballistic Missile Treaty being in effect, the United States withdrew from the treaty in 2002, claiming it prevented the United States from developing defenses against possible terrorist attacks and rogue-state ballistic missile attacks.102

Part of the SALT I agreement was a provision stipulating that the parties begin further negotiations to limit strategic offensive arms.103 Hence, SALT II was formed.104 This agreement, set to

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98. Tannenwald, supra note 96, at 376.


101. Id. art. V.


103. Treaty on the Limitation of Anti-Ballistic Missile Systems, supra note 100, art. XI.

104. U.S. DEP’T OF STATE, Treaty Between the United States of America and the
expire on either December 31, 1985 or upon the creation of a new agreement, was primarily crafted to control arms on land, but included prohibitions against developing, testing, or deploying weapons of mass destruction in space.105

Even with the additional development of space and arms control treaties since the Outer Space Treaty, international law is still woefully inadequate to deal with challenges posed by the increased use of space for military purposes.106 Due to the lack of law sufficient to curb this ever-growing space threat, new frameworks have been proposed to fill the glaring void.107

Two approaches were recently proposed to solve the militarized space problem, one by the United States and the other by Russia and China.108 In February 2008, China and Russia put forward the Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects (PPWT).109 The proposed treaty would be an internationally binding agreement outlawing weaponization in space.110 The United States quickly refused the 2008 PPWT


105. Id. art. XIX; see also Tannenwald, supra note 96, at 370 n.28 (noting SALT II’s prohibition on the development, testing, or deploying of weapons of mass destruction in space).

106. Tannenwald, supra note 96; see also Maogoto & Freeland, supra note 1, at 170, 195 (describing the difficulties applying the Laws of Armed Conflict to military use of space).


110. Id.
because the United States believed it was impossible to enforce and were suspicious that the proposal was a ploy by Russia and China to gain a military advantage.\footnote{111}{Nick Cumming-Bruce, \textit{U.N. Weighs a Ban on Weapons in Space, but U.S. Still Objects}, \textit{N.Y. Times} (Feb. 13, 2008), http://www.nytimes.com/2008/02/13/world/europe/13arms.html.}


The updated treaty also does not provide any measure to prevent a country from having “breakout” capability.\footnote{115}{P.J. Blount & Andrew Taylor, \textit{U.S. Problems with the Draft PPWT}, \textit{Univ. of Miss. Sch. of Law: Res Communis} (July 24, 2012, 3:15 PM), http://rescommunis.olemiss.edu/2012/07/24/u-s-problems-with-the-draft-ppwt/ [http://perma.cc/3ZFS-F7T9].} Breakout capability means that a country can develop, test, and store weapons that would break the treaty if ever used, but the actual developing, testing, and storing of the weapons themselves is not a violation of the treaty.\footnote{116}{Id.} Therefore, a country that decides at some point to break the treaty could already have the weaponry on hand and ready for deployment.\footnote{117}{Id.} The failure of the treaty to address this issue is a problem because the treaty provides no real
way to stop the development and stockpiling of weapons, and so does not prevent a perpetuating arms race.\textsuperscript{118}

The United States’ position on outer space arms control proposals is that it will not join an agreement that is not equitable, effectively verifiable, and that does not enhance the security of all.\textsuperscript{119} Finding that Russia and China’s proposed treaty does not satisfy these requirements, the United States rejected it and instead has favored establishing an international code of conduct to deal with the space weapon threat.\textsuperscript{120}

The International Code of Conduct for Outer Space Activities was proposed by the EU following the adoption of two UN General Assembly Resolutions.\textsuperscript{121} The first resolution in 2006 called for member states to submit concrete proposals to increase transparency and create confidence between nations in outer space activities to maintain international peace and security and prevent an arms race in outer space.\textsuperscript{122} The second resolution, adopted in 2008, continued the goal of the first resolution by again inviting members to submit proposals to the UN Secretary General for review.\textsuperscript{123}

The preliminary draft of the International Code of Conduct for Outer Space Activities was released in December 2008, with a more recent draft released in March 2014.\textsuperscript{124} The preamble to the Code of Conduct states that the Code is designed to safeguard a peaceful and sustainable use of outer space for now and the future, and recognizes the importance of preventing an arms race

\begin{itemize}
\item\textsuperscript{119} Frank A. Rose, Deputy Assistant Sec’y of State for Arms Control, Verification, & Compliance, Continuing Progress on Ensuring the Long-Term Sustainability and Security of the Space Environment (June 10, 2014), http://www.state.gov/t/avcrls/2014/227370.htm [http://perma.cc/SX3Z-XS8D].
\item\textsuperscript{120} Id.
\item\textsuperscript{121} Code of Conduct for Outer Space Activities, supra note 107.
\item\textsuperscript{122} G.A. Res. 61/75, ¶ 1, U.N. Doc. A/RES/61/75 (Dec. 18, 2006).
\item\textsuperscript{124} Code of Conduct for Outer Space Activities, supra note 107.
\end{itemize}
in outer space.\textsuperscript{125} The Code of Conduct is a pragmatic way for the international community to establish “rules of the road” for the use of space and aims to create an international culture of transparency and trust when it comes to the use of space.\textsuperscript{126} However, the Code of Conduct solution is not without opposition among spacefaring nations.\textsuperscript{127} At a meeting in July 2015, Russia, China, Brazil, India, and South Africa all expressed their dissatisfaction with the Code as a means to effectively prevent an arms race in outer space.\textsuperscript{128} These countries’ key concerns with the Code were that the Code does not include mandates for military issues in space, and that the code reinforces that countries have an inherent right to use self-defense in space.\textsuperscript{129} Some countries believe the right to self-defense will be a loophole exploited by countries to weaponize space, and there are also concerns about the non-legal status of the Code.\textsuperscript{130} Developing nations, including nations in Africa and Latin America, have raised concerns that the International Code of Conduct would be drafted by current spacefaring nations in a manner that would prevent their expansion into space.\textsuperscript{131}

\begin{itemize}
\item \textsuperscript{126} Code of Conduct for Outer Space Activities, supra note 107.
\item \textsuperscript{130} Irsten, supra note 129.
\end{itemize}
Ultimately, the meeting ended with the EU conceding that negotiations must be pursued in the context of a UN General Assembly mandate, which effectively killed the idea of an international code for the present time.\footnote{Michael J. Listner, \textit{The International Code of Conduct: Comments on Changes in the Latest Draft and Post-Mortem Thoughts}, \textit{SPACE REV.} (Oct. 26, 2015), http://www.thespacereview.com/article/2851/1 [http://perma.cc/V739-WVF3].}

The international political developments involved with the growing global space threat have failed to provide any real advancement to solving the problem of a looming arms race in space.\footnote{See Cumming-Bruce, supra note 111 (“We’re at a rather decisive point where we either move onto substantive negotiations or back to more years of fruitless discussion”); Paul Meyer, \textit{Star Crossed: An International Code of Conduct for Outer Space?}, \textit{OPEN CAN.} (Aug. 31, 2015), http://www.opencanada.org/features/star-crossed-an-international-code-of-conduct-for-outer-space/ [http://perma.cc/2LMK-PWSM] (noting that due to opposition, the EU was unable to receive endorsements for their draft code of conduct).} With the United States’ concern over China and Russia’s possible use of lawfare as a military strategy, agreements between the countries may prove difficult to procure in the future.\footnote{See Gertz, supra note 107 (observing the potential difficulties that may arise from China and Russia’s push for a legally binding space arms treaty).} Lawfare is the misuse and abuse of legal systems in order to control adversaries by hamstringing them to accomplish one’s military objectives.\footnote{DEAN GERTZ, \textit{WINNING WITHOUT FIGHTING: CHINESE LEGAL WARFARE} (May 21, 2012), http://www.heritage.org/research/reports/2012/05/winning-without-fighting-chinese-legal-warfare [http://perma.cc/98GA-KXP9]; \textit{What is Lawfare, LAWFARE PROJECT}, http://thelawfareproject.org/lawfare/what-is-lawfare-1/ [http://perma.cc/V4A9-8DYU] (last visited Oct. 24, 2016).} The Chinese often refer in their writings to three types of interrelated warfare that are often deployed in coordinated strategic efforts to gain military advantages: (1) public opinion warfare—an ongoing effort to influence people’s perceptions and attitudes through the media, press, movies, television, and books; (2) psychological warfare—efforts seeking to influence the minds of both civilians and the military, in both peace and war, and to weaken opponents to make them susceptible to coercion;\footnote{DEAN CHENG, \textit{WINNING WITHOUT FIGHTING: THE CHINESE PSYCHOLOGICAL WARFARE CHALLENGE} (July 11, 2013), http://www.heritage.org/research/reports/2013/07/winning-without-fighting-the-chinese-psychological-warfare-challenge [http://perma.cc/A29Z-2B3C].} and (3) legal warfare—a
military operation, conducted under a unified command structure, that uses the law to conduct offensive, defensive, and counterattacking military operations. These three types of warfare were explicitly implemented as part of China’s “Political Work Regulations of the Chinese People’s Liberation Army,” a regulation directing the General Political Department to undertake the three warfares when implementing its political work. Chinese writings on the use of lawfare also stress that the focus of legal warfare is to obtain military objectives, not legal objectives.

VII. CONCLUSION

The militarization of space is a real threat that is no longer a problem to be dealt with decades in the future. Global stability is at risk now as a growing number of countries gain spacefaring capabilities and major space players across the globe itch to use newfound technology to gain the military advantages that accompany dominating space. Many U.S. military and political leaders believe that the use of space for military purposes is an inevitable fact that will be realized sometime in the near future.

This grim picture of an inevitable and dangerous arms race

137. Cheng, supra note 135 (discussing the integral part that lawfare plays in China’s military strategy).
138. Id.
142. See, e.g., Billings, supra note 48, (discussing U.S. senior government leaders’ concerns about the growing threat to U.S. satellites and the government’s development of offensive space control and active defense strategies and capabilities).
cannot be a future that the global community is resigned to accept.\textsuperscript{143} The major space players must be willing to negotiate a new agreement from a position of global concern rather than kicking the can further down the road by proposing agreements that countries know will not be agreeable to other nations.\textsuperscript{144} By seriously considering the interests of other nations and the international community, some common ground and room for compromise can surely be found that will move the international community toward securing the peaceful use of space.\textsuperscript{145}

Without an agreement, countries might attempt to secure their future space power by moving toward attaining complete space dominance.\textsuperscript{146} The United States is currently in the best position to ensure space dominance, but the two players in the United States’ review mirror, China and Russia, are unlikely to concede a space victory to the United States.\textsuperscript{147} If the United States begins to take measures to dominate space, China and Russia will probably see this as a very provocative maneuver and dedicate enormous resources to prevent such a result.\textsuperscript{148}

The strategic advantages of controlling space in future warfare is emerging as a battlespace that has the potential to be as important as sea or air superiority currently is, and has been historically to military power.\textsuperscript{149} Because space has the potential to significantly impact the future military might of nations, compromise and global concern will have to play key roles if a destructive arms race is to be prevented.\textsuperscript{150} Without compromise and agreement, global stability and security will be in jeopardy.

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\textsuperscript{143} Id.
\textsuperscript{144} See Colleen Driscoll Sullivan, The Prevention of an Arms Race in Outer Space: An Emerging Principle of International Law, 4 TEMP. INT’L & COMP. L.J. 211, 237 (1990) (commenting on prior diplomatic games of making proposals that are sure to be rejected by both the United States and the Soviet Union).
\textsuperscript{145} Id. at 236-37.
\textsuperscript{147} Id. at 692, 697.
\textsuperscript{148} Id. at 697, 703.
\textsuperscript{149} Maogoto & Freeland, supra note 1, at 194.
\textsuperscript{150} See Sullivan, supra note 144, at 235-36 (noting that confronting the current problems that now exist and seeking compromise are the first steps to maintaining the peaceful use of space).
as countries jockey to improve their position in the battlefield of space.\footnote{151}