
**SOFT LAW'S FAILURE ON THE HORIZON:
THE INTERNATIONAL CODE OF CONDUCT FOR OUTER
SPACE ACTIVITIES**

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1. INTRODUCTION

Satellites and other spacecraft have quietly become an essential part of the world's infrastructure and now play an indispensable role in our everyday lives, empowering countless services ranging from communications to banking, weather reports, safety functions, and navigation.¹ Perhaps more ominously, however, space has also become a vital military domain as space systems represent invaluable national security assets for the United States and other countries.² Space is in fact so fundamental to modern American military power that U.S. defense officials have suggested that without space systems, "many of our most important military advantages evaporate."³

The militarization of space has proceeded in spite of the peaceful purposes which were established for its exploration and use in the first legal instrument developed to govern space activities.⁴ Even though states are committed to use space only for "peaceful purposes," this ambiguous phrase has historically been subject to competing interpretations.⁵ The prevailing interpretation, which allows the use of space "for military purposes so long as they are not aggressive in character," has left space open to diverse and ex-

¹ UCS *Satellite Database*, UNION OF CONCERNED SCIENTISTS (Aug. 11, 2016), <http://www.ucsusa.org/nuclear-weapons/space-weapons/satellite-database#.WBVBAfkrLIV> [<https://perma.cc/B3FX-62CS>]; *Space Debris: Orbiting Debris Threatens Sustainable Use of Outer Space*, UNITED NATIONS (2008), <http://www.un.org/en/events/tenstories/08/spacedebris.shtml> [<https://perma.cc/U9GZ-NSCG>].

² William J. Lynn, III, [former U.S. Deputy Secretary of Defense], *A Military Strategy for the New Space Environment*, 34:3 WASH. Q. 7, 7 (Summer 2011) ("Space systems enable our modern way of war. They allow our warfighters to strike with precision, to navigate with accuracy, to communicate with certainty, and to see the battlefield with clarity").

³ *Id.*

⁴ See, e.g., Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, Preamble, *opened for signature* Dec. 18, 1979, 1363 U.N.T.S. 3 [hereinafter *Outer Space Treaty*] (entered into force July 11, 1984) ("Recognizing the common interest of all mankind in the progress of the exploration and use of outer space for peaceful purposes").

⁵ P.K. MENON, *THE UNITED NATIONS' EFFORTS TO OUTLAW THE ARMS RACE IN OUTER SPACE: A BRIEF HISTORY WITH KEY DOCUMENTS* 29, 34 (1988) (noting that interpretation of the phrase "peaceful purposes" has been a highly controversial problem since the beginning of the space age, with one principal school of thought holding that the phrase refers to "nonmilitary activity" and the other holding that it refers to "nonaggressive activity").

panding military activities.⁶

Rather than a hoped-for, peaceful utopia, space thus continues to evolve into a highly militarized, contested, and dangerously insecure domain in which many states view each other's activities there with great suspicion and seek to counter growing, perceived threats. As U.S. Deputy Secretary of Defense Robert Work recently observed in announcing the creation of a new U.S. space operations center, the threats posed by Russia and China have spurred the U.S. military "to develop the tactics, techniques, [and] procedures" to recognize and take on threats in order "to prevail in conflicts that extend into space."⁷ He suggested that although space had once been a "virtual sanctuary," it must now "be considered a contested operational domain in ways that we haven't had to think about in the past."⁸

Other countries, however, have voiced their own concerns about U.S. military activities in space. On Oct. 17, 2014, a remote-controlled X-37B Orbital Test Vehicle (dubbed a "secret space plane") completed a record-setting 674-day mission orbiting earth as it performed classified missions for the U.S. Air Force.⁹ In spite of the secrecy surrounding the project, Pentagon officials denied that the plane has "anything to do with space weapons."¹⁰ Suspicious foreign observers, especially in Russia and China, disagree. Many of them view the X-37B space plane as a prototype of a new space weapon which may be capable of disabling or destroying

⁶ *Id.* at 35 (noting that the Soviet Union and the United States ultimately chose to preserve discretion in the interpretation of the term "peaceful use" and agreed that space "can be used for military purposes so long as they are nonaggressive in character").

⁷ Marcus Weisgerber & Patrick Tucker, *Pentagon Rushing to Open Space-War Center To Counter China, Russia*, DEFENSE ONE, June 23, 2015, <http://www.defenseone.com/management/2015/06/pentagon-preparing-war-space-russia-china/116101/> [<https://perma.cc/C3UH-K2X9>] (noting also that "[t]he ugly reality that we must now all face is that if an adversary were able to take space away from us, our ability to project decisive power across transoceanic distances and overmatch adversaries in theaters once we get there . . . would be critically weakened").

⁸ *Id.*

⁹ Alan Yuhas, *X-37B Secret Space Plane's Mission Remains Mystery Outside US Military*, THE GUARDIAN, Oct. 27, 2014, <http://www.theguardian.com/us-news/2014/oct/26/x37b-us-military-secret-space-plane-mission> [<https://perma.cc/E5GG-6JT2>].

¹⁰ William J. Broad, *Surveillance Suspected as Spacecraft's Main Role*, N.Y. TIMES, May 22, 2010, http://www.nytimes.com/2010/05/23/science/space/23secret.html?_r=0 [<https://perma.cc/2AL9-YWHL>].

satellites and other targets in space or on earth.¹¹

For its part, the U.S. Government consistently reaffirms its support of the peaceful exploration and use of outer space, but also asserts its right to “prevent and deter aggression against space infrastructure that supports U.S. national security.”¹² Unfortunately, fear often seems to dominate the views of potential U.S. adversaries as they assess new U.S. military projects in space like the X-37B.¹³ Such fears predictably generate counter-measures by threatened states (such as developing their own variant of the X-37B), leading in turn to the prospect of an arms race in space.¹⁴

Fear, suspicion, perceived threats, and continuing allegations of hostile acts continue to undermine the status of space as a secure and peaceful domain. In 2012, Russian officials claimed that a Russian satellite had been disabled by a secret weapon, presumably operated by the United States.¹⁵ More recently, Russia has refused to respond to inquiries regarding

¹¹ See, e.g., *Air Force's Top-Secret X-37B Spacecraft Lands After Nearly Two Years in Orbit*, RT (Russian News), Oct. 17, 2014, <http://rt.com/usa/196988-air-force-space-plane-lands/> [<https://perma.cc/V2G4-5HTF>] (“Some postulate that [the X-37B] could be used to attack and destroy adversaries’ satellites orbiting the Earth”).

¹² See U.S. DEP’T OF DEFENSE, NATIONAL SECURITY SPACE STRATEGY: UNCLASSIFIED SUMMARY at 5 (2011), available at <http://www.defense.gov/home/features/2011/0111nsss/docs/NationalSecuritySpaceStrategyUnclassifiedSummaryJan2011.pdf> [<https://perma.cc/N8CV-6QN3>] [hereinafter NATIONAL SECURITY SPACE STRATEGY].

¹³ See, e.g., Fred Weir, *Can Russia Rival the X-37B Space Plane with its Own Robotic Spacecraft?*, CHRISTIAN SCIENCE MONITOR, Feb. 3, 2011, <http://www.csmonitor.com/World/Europe/2011/0203/Can-Russia-rival-the-X-37B-space-plane-with-its-own-robotic-spacecraft> [<https://perma.cc/LM7B-U3WZ>] (noting that “[m]ost Russian media coverage about the mini-shuttle [the X-37B] was dominated by fear”).

¹⁴ See, e.g., Lewis Page, *Russia has 'Secret Space Warplane' to Match US X-37B*, THE REGISTER, Feb. 4, 2011, http://www.theregister.co.uk/2011/02/04/x37b_ski/ [<https://perma.cc/XX4D-3XJ2>] (noting that Russia has claimed that it is working on an unmanned spaceplane similar to the U.S.’s X-37B).

¹⁵ See, e.g., Andrew E. Kramer, *Russia's Failed Mars Probe Crashes Into Pacific*, N.Y. TIMES, Jan. 15, 2012, available at <http://www.nytimes.com/2012/01/16/science/space/russias-phobos-grunt-mars-probe-crashes-into-pacific.html> [<https://perma.cc/QC6N-F5GM>] (noting a Russian space official’s speculation that the Phobos-Grunt satellite might have been hit by an anti-satellite weapon); Andrew E. Kramer, *Russian Official Suggests Weapon Caused Exploration Spacecraft's Failure*, N.Y. TIMES, Jan. 10, 2012, available at <http://www.nytimes.com/2012/01/11/science/space/russian-official-suggests-weapon-caused-spacecraft-failure.html> [<https://perma.cc/HG49-AT8C>] (noting the Russian allegation that U.S. radar installations in Alaska might have damaged the Phobos-Grunt satellite).

a “mysterious object” launched by the Russian military which has engaged in various sophisticated maneuvers and is described as “stoking fears over the revival of a defunct Kremlin project to destroy satellites.”¹⁶ Meanwhile, back on earth, several states continue to employ technologies that interfere with satellite transmissions for various political purposes.¹⁷

It is in this insecure environment that the international community now confronts a serious and growing threat to all future uses of space: the problem of orbital space debris.¹⁸ Space debris consists of all manner of “junk” left in space, including defunct satellites, rocket stages used in previous launches, nose cones, payload covers, shrouds, bolts, solid propellant slag, space activity cast-aways, deterioration fragments (peeled paint, etc.) and fragments from exploding batteries, fuel tanks, and collisions.¹⁹ Even the smallest piece of debris, travelling at speeds of many thousands of kilometers per hour, has the potential to damage or destroy a spacecraft or harm an astronaut and can remain in orbit for hundreds or even thousands of years (depending on its altitude and related orbital drag and decay).²⁰

In an ominous development in February 2009, the first major collision of two satellites in orbit occurred (a defunct Russian

¹⁶ Sam Jones, *Object 2014-28E – Space Junk or Russian Satellite Killer?*, FINANCIAL TIMES, Nov. 17, 2014, <http://www.ft.com/intl/cms/s/2/cdd0bdb6-6c27-11e4-990f-00144feabdc0.html#axzz3MeMsL2Nr> [<https://perma.cc/7AZJ-H8CU>].

¹⁷ Lynn, *supra* note 2, at 7–16 (noting how satellite broadcasts by the BBC and other organizations have been disrupted by states such as Libya and Iran and that “even less technologically developed countries such as Ethiopia have employed jamming technologies for political purposes”).

¹⁸ Press Statement, Hillary Rodham Clinton, U.S. Sec’y of State, International Code of Conduct for Outer Space Activities (Jan. 17, 2012), <http://www.state.gov/secretary/20092013clinton/rm/2012/01/180969.htm> [<https://perma.cc/5TMF-HCDD>] (“The long-term sustainability of our space environment is at serious risk from space debris and irresponsible actors.”) [hereinafter Press Statement, Sec’y of State Clinton].

¹⁹ See *Focus on Growing Threat of Space Debris*, EUROPEAN SPACE AGENCY, Apr. 18, 2013, http://www.esa.int/Our_Activities/Operations/Space_Debris/Focus_on_growing_threat_of_space_debris/ [<https://perma.cc/98PF-ETGJ>] (noting that space is clogged with the leftovers from the near-5000 launches by all spacefaring nations since the start of the space age); *Space Debris: Orbiting Debris Threatens Sustainable Use of Outer Space*, *supra* note 1 (describing the peril posed to orbiting satellites by accumulating outer space debris).

²⁰ *Space Debris: Orbiting Debris Threatens Sustainable Use of Outer Space*, *supra* note 1.

communications satellite and an operational US satellite, each travelling at 17,500 miles an hour), creating a huge cloud of space debris that may threaten orbiting spacecraft for decades.²¹ The junkyard of space debris orbiting earth is now so extensive that many more collisions are expected, at an increasingly frequent rate.²²

The precarious security situation in space has dramatically contributed to the threat posed by orbiting space debris. In 2007, the People's Republic of China demonstrated its military capabilities and stunned the international community by conducting an anti-satellite weapon (ASAT) test against one of its own aging weather satellites, generating a massive cloud of orbiting space debris that now poses a collision risk to all spacecraft in, or passing through, low earth orbit.²³ According to the Chief Scientist and Program Manager of the National Aeronautics and Space Administration (NASA) Orbital Debris Program Office, Nicholas Johnson, "[t]his is by far the worst satellite fragmentation in the history of the space age, in the past 50 years Many of these debris will be in orbit for 100 years or more because the altitude of the breakup was so high."²⁴

²¹ *Id.*; William J. Broad, *Debris Spews into Space after Satellites Collide*, N.Y. TIMES, Feb. 11, 2009, available at http://www.nytimes.com/2009/02/12/science/space/12satellite.html?_r=0 [<https://perma.cc/9GKH-U6ZY>] (noting that the Russian and American communications satellites "cracked up in silent destruction" and that the American Iridium satellite was part of a constellation of 66 spacecraft).

²² Christian Torres, *Report Says Space Debris Past 'Tipping Point,' NASA Needs to Step Up Action*, WASH. POST, Sept. 1, 2011, http://www.washingtonpost.com/national/health-science/reports-says-space-debris-past-tipping-point-nasa-needs-to-step-up-action/2011/08/31/gIQAo6WTuJ_story.html [<https://perma.cc/ZLX5-9B5Y>] (noting the possibility that if debris reaches a critical mass, it could set off a chain reaction of more collisions, resulting in a cascading effect in which debris would continually collide with one another and create even more debris).

²³ William J. Broad & David E. Sanger, *Flexing Muscle, China Destroys Satellite in Test*, N.Y. TIMES, Jan. 19, 2007, <http://www.nytimes.com/2007/01/19/world/asia/19china.html?> [<https://perma.cc/W4U3-DRZC>]; NASA Orbital Debris Program Office, *Fengyun-1C Debris: Two Years Later*, 13 ORBITAL DEBRIS Q. NEWS 2 (Jan. 2009), available at <https://orbitaldebris.jsc.nasa.gov/quarterly-news/pdfs/odqnv13i1.pdf> [<https://perma.cc/YGH2-XF87>] (noting that the Fengyun-1C debris cloud accounted "for more than 25% of all cataloged objects" in low earth orbit in 2008, with 400 objects still to be catalogued).

²⁴ Frank Moring, Jr., *China ASAT Test Called Worst Single Debris Event Ever*, AVIATION WEEK, Feb. 11, 2007, <http://www.freerepublic.com/focus/f-news/1790313/posts> [<https://perma.cc/6TPG-UC28>]. The orbit of a particular satellite is a function of its mission. Most satellites in low earth orbit operate at altitudes of hundreds of kilometers up to around 1,000 km. The lower the altitude, the greater the atmospheric drag. This drag slows a satellite and will eventually decay its orbit and force it to fall to earth (unless the satellite has maneuvering capabilities).

The debris-generating Chinese ASAT test in 2007 and the growing threat posed by orbital space debris prompted the international community to reexamine the existing international legal and administrative framework that regulates military and civilian activities in outer space. This framework is founded on two sets of authorities: "hard law" and "soft law." The hard law space regime consists of legally binding rules, drawn principally from a small set of multilateral agreements (the Outer Space Treaty, the Rescue Agreement, the Liability Convention, the Registration Convention and the Moon Treaty) and the body of customary international law.²⁵

Since the conclusion of the last of multilateral convention in 1979, however, the international community has been unable to achieve any new, legally binding agreements to govern space activities (and the most recently concluded multilateral convention, the Moon Treaty, has been ratified by only sixteen countries).²⁶ In place of legally binding agreements, a wide variety of non-binding "soft law" instruments have been developed for space activities, variously described as "non-binding principles, norms, standards or other statements of expected behavior in the form of recommendations, charters, terms of reference, guidelines, codes of conduct, etc."²⁷

In light of the obstacles that have prevented states from concluding legally binding agreements to govern space activities,

See David Wright, Laura Grego & Lisbeth Gronlund, *THE PHYSICS OF SPACE SECURITY: A REFERENCE MANUAL* 29, 39-40 (2005) (describing the effects of the atmosphere on orbiting satellites).

²⁵ Outer Space Treaty, *supra* note 4; Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, Apr. 22, 1968, 19 U.S.T. 7570, 672 U.N.T.S. 119; Convention on International Liability for Damage Caused by Space Objects, Mar. 29, 1972, 24 U.S.T. 2389, 961 U.N.T.S. 187; Convention on Registration of Objects Launched into Outer Space, Jan. 14, 1975, 28 U.S.T. 695, 1023 U.N.T.S. 15; Agreement Governing the Activities of States on the Moon & Other Celestial Bodies, Dec. 18, 1979, 1363 U.N.T.S. 3, 18 I.L.M. 1434.

²⁶ Committee on the Peaceful Uses of Outer Space, *Status of International Agreements relating to Activities in Outer Space as at 1 January 2015*, U.N. Doc. A/AC.105/C.2/2015/CRP.8 http://www.unoosa.org/pdf/limited/c2/AC105_C2_2015_CRP08E.pdf [<https://perma.cc/CS6R-DBYU>].

²⁷ Marco Ferrazzani, *Soft Law in Space Activities – An Updated View*, in *SOFT LAW IN OUTER SPACE: THE FUNCTION OF NON-BINDING NORMS IN INTERNATIONAL SPACE LAW* 99, 100 (ed., 2012) [hereinafter *SOFT LAW IN SPACE*]; see also Dinah L. Shelton, *Normative Hierarchy in International Law*, 100 AM. J. INT'L L. 291, 319 (2006) (noting that the term "soft law" is often used to denote principles, standards, or arrangements of a non-legally binding nature).

some authors have suggested that soft law initiatives should be embraced as “the best hope for pragmatic progress in a highly politically charged environment.”²⁸ It has also been suggested that soft law has emerged as the “most appropriate tool” for ensuring the security of space objects and preventing an arms race in space.²⁹

The shocking, destructive Chinese ASAT test in 2007 inspired the European Union to develop a soft law instrument, a non-binding code of conduct, to promote more responsible behavior in space.³⁰ The European Code of Conduct for Activities in Outer Space was formally proposed on December 17, 2008.³¹ After three subsequent revisions, the latest draft (March 31, 2014) is now referred to as the International Code of Conduct for Outer Space Activities (the “ICOC” or the “Code”).³²

Invoking the benefits of soft law, many scholars, government officials and other commentators support the adoption of the Code and consider it (or similar codes) to be the right step forward in order to ensure more-responsible behavior in space.³³ Toward this

²⁸ See, e.g., Ben Baseley-Walker, *Analysing International Reactions to Soft Law Initiatives on Space Security*, in *SOFT LAW IN SPACE*, *supra* note 27, at 387, 394.

²⁹ See, e.g., Fabio Tronchetti, *A Soft Law Approach to Prevent the Weaponisation of Outer Space*, in *SOFT LAW IN SPACE*, *supra* note 27, at 361, 372.

³⁰ Jana Robinson, *Europe’s Space Diplomacy Initiative: The International Code of Conduct*, in *DECODING THE INTERNATIONAL CODE OF CONDUCT FOR OUTER SPACE ACTIVITIES 27* (Ajey Lele ed., 2012) [hereinafter *DECODING THE CODE*] (“The code was largely stimulated by the troubling display of non-transparency and insensitivity to the space environment shown by China in its 2007 anti-satellite (ASAT) test”).

³¹ Council of the European Union, *Council Conclusions and Draft Code of Conduct for Outer Space Activities*, Annex II, ST 17175 2008 INIT (Dec. 17, 2008), available at <http://register.consilium.europa.eu/doc/srv?l=EN&f=ST%2017175%202008%20INIT> [<https://perma.cc/5Y6Q-MVQV>].

³² Council of the European Union, *Version March 31, 2014, Draft International Code of Conduct for Outer Space Activities*, available at http://www.eas.europa.eu/non-proliferation-and-disarmament/pdf/space_code_conduct_draft_vers_31-march-2014_en.pdf [<https://perma.cc/PL6S-FPCV>] [hereinafter *Code*]. Previous revised versions were proposed on October 11, 2010, and September 16, 2013.

³³ See, e.g., Press Statement, Sec’y of State Clinton, *supra* note 18 (“A Code of Conduct will help maintain the long-term sustainability, safety, stability, and security of space by establishing guidelines for the responsible use of space.”); Victoria Samson, *The ICOC: A Starting Point*, in *AWAITING LAUNCH: PERSPECTIVES ON THE DRAFT ICOC FOR OUTER SPACE ACTIVITIES 69, 69-74* (Rajeswari Pillai Rajagopalan & Daniel A. Porras eds., 2014) [hereinafter *AWAITING LAUNCH*] (“While the ICOC is not perfect, it is an excellent start to the conversation on what major space stakeholders believe to be responsible use of space . . .”); Park Won-hwa, *Space Code of Conduct: Right Step Forward Although not Perfect*, in *DECODING THE*

end, the Code employs its own soft law approach to address numerous issues, including those found in two related but very different subject matter areas: the critical problem of orbital space debris and the challenge of preventing an arms race in space. The Code unfortunately fails in its attempts to achieve progress in either of these areas and instead undermines such efforts.

While various soft law instruments have made positive contributions to different aspects of space law, this article argues that the Code does not hold such promise. On the contrary, the Code is a case study in the limitations of soft law, particularly when employed as a mechanism to regulate military activities and weapons in a highly insecure environment. Moreover, it is notably ill-suited in this context and in its design to successfully address the critical problem of orbital space debris. As an instrument with soft law's limitations and its own particular shortcomings, the Code is thus an ineffective and distracting measure that risks increasing tensions in space while diminishing existing and future space regimes.

The article is organized as follows. Part 2 briefly discusses the ascendance of soft law as a design choice in building international regimes, and the important role that it has played in the formation of space law and regulatory frameworks related to space activities. Next, this part concisely reviews the Code framework, particularly as it relates to military and security concerns and the promotion of arms control objectives.

Part 3 presents the argument that soft law is generally a problematic design choice for arms control initiatives and is ill-equipped to address contentious security issues in an unstable geopolitical environment. The argument proceeds by analyzing the negative effects of soft law design choices that weaken instruments, such as the Code, along the dimensions of precision and obligation. The impact of these design choices on compliance may also vary with respect to the political systems that embrace them, raising questions about possible disadvantages for democratic states (and their open societies) when they undertake in good faith to implement politically significant but legally non-binding arms control commitments.

Part 4 carries the analysis one step further, arguing that the Code is a particularly problematic soft law variant for addressing critical space problems, notably space debris. In advancing this ar-

CODE, *supra* note 30, at 101, 103 (describing the Code, in spite of its limitations, as a "positive milestone for humankind").

gument, central features of the Code are assessed, including the manner in which this diplomatically-driven, or “top-down” soft law instrument is layered upon current, more effective “bottom-up” soft law initiatives, creating a counterproductive and confusing “soft-on-soft law” phenomenon. Furthermore, as a practical matter, the Code has failed to attract the support of several key spacefaring states, raising the prospect of a fractional soft law variant that is unable to address key security issues and instead risks increasing tensions in space.

The Code presents one last intriguing soft law predicament based on its promotion as a “non-binding” yet “norm-creating” instrument. As a legally non-binding document, the Code skirts legislative participation in subscribing democratic states where legislatures normally approve, authorize or otherwise participate in the conclusion of legally binding agreements. To the extent that the Code, along with subsequent state practice, generates new legally binding norms of customary international law, it would thus enlarge a “democracy deficit” in the formation of those rules and could have far-reaching negative consequences. The Code’s heralded non-binding yet norm-creating status has given rise to an unprecedented conflict between the executive and legislative branches in the United States. This conflict threatens to undermine not only U.S. support for the Code, but also the leading role that the United States has played in the development of space law since the beginning of the space era.

Part 5 offers some thoughts on principles to guide states as they take the next step in developing new instruments to better address the critical threat posed by space debris while also grappling with separate but closely related security and arms control issues in space. Finally, Part VI concludes with reflections on the most serious problems confronting the international community in space and how the Code unfortunately represents more of an obstacle than a meaningful solution to these problems.

2. THE ASCENDANCE OF SOFT LAW AND ITS ROLE IN OUTER SPACE

2.1. *Choosing Soft Law*

In contrast to the protracted negotiations that are often re-

quired to conclude legally binding agreements, the process associated with developing soft law has been described as a faster and easier alternative for states to address shared problems and overcome political obstacles.³⁴ One common explanation for the ease with which states are able to conclude soft law instruments is the flexibility afforded by soft law, an attribute that some authors also suggest is particularly useful for dealing with the challenges of space.³⁵

Soft law instruments may thus enjoy the benefits of great flexibility and may be concluded quickly through a variety of methods, particularly by employing indeterminate terms that help avoid lengthy debates about controversial key phrases and definitions.³⁶ Vague, ambiguous, imprecise, or otherwise indeterminate language used in international instruments is often categorized by scholars as a form of "soft law."³⁷ Soft law documents may thus take many forms as they are weakened along one or more dimensions, including obligation and precision.³⁸

³⁴ Christian Olarean, *Cyber Threats to Space Systems*, in *AWAITING LAUNCH*, *supra* note 33, at 101, 104 (noting how non-legally binding tools and frameworks provide greater flexibility than binding treaties and permit timely movement towards solutions on issues "where political obstacles can make the negotiation of legal instruments a protracted process."); Ferrazzani, *supra* note 27, at 105 (arguing that soft law instruments "foster international cooperation by offering simpler, faster and more flexible terms").

³⁵ Ferrazzani, *supra* note 27, at 117 (describing the practice of soft law as "[a] virtuous system that is flexible, corresponding to the needs of the space community . . .").

³⁶ Wolfgang Rathgeber et al., *Space security and the European Code of Conduct for Outer Space Activities*, 4 UNIDIR DISARMAMENT F. 33, 34 (2009), available at <http://www.unidir.org/files/publications/pdfs/a-safer-space-environment-en-325.pdf> [<https://perma.cc/A2LR-GBQS>] (noting that "because it constitutes soft law, a code of conduct is easier to agree to and potentially avoids lengthy discussions about definitions . . .").

³⁷ See, e.g., Shelton, *supra* note 27, at 319 (noting that "[t]he term 'soft law' is also sometimes employed to refer to the weak, vague, or poorly drafted content of a binding instrument"); Prosper Weil, *Towards Relative Normativity in International Law?*, 77 AM. J. INT'L L. 413, 414-15 n.7 (1983) (stating that "[i]t would seem better to reserve the term 'soft law' for rules that are imprecise and not really compelling"); Edith Brown Weiss, *Introduction*, in *INTERNATIONAL COMPLIANCE WITH NONBINDING ACCORDS* 1, 3 (Edith Brown Weiss ed., 1997) (noting that soft law can also refer to hortatory language).

³⁸ See Kenneth W. Abbott & Duncan Snidal, *Hard and Soft Law in International Governance*, 54 INT'L ORG. 421, 422 (Summer 2000) (emphasizing that 'soft law' begins once legal arrangements are weakened along one or more of the dimensions of obligation, precision, and delegation."); R. R. Baxter, *International Law in "Her Infinite Variety"*, 29 INT'L & COMP. L. Q. 549, 549-566 (Oct., 1980) (suggesting that "soft law" can manifest itself in an "infinite variety" of forms).

Although soft law instruments are often characterized by diminished obligations (since they are legally non-binding documents) and/or imprecise language, they may nonetheless be able to significantly influence the behavior and conduct of states.³⁹ Scholars who describe the benefits of soft law point, in particular, to the ability of soft law instruments to help states and international organizations build new international norms, including new norms of space law.⁴⁰ Such capabilities are also invoked by commentators who suggest that soft law initiatives should be embraced as “a key building block for norm-setting and regulation of the outer space environment.”⁴¹

Advocates of the Code thus argue that one of its greatest strengths is its status as a soft law instrument, suggesting that it “can help define responsible activities and set out agreed norms of behaviour when legally binding agreements cannot be reached.”⁴² Proponents further predict that the Code will establish a solid foundation for such progress and be able to serve as “an essential normative instrument to harmonize the interests of space-faring and non-space-faring countries.”⁴³ Similarly, senior U.S. officials

³⁹ Christian Brünner & Georg Königsberger, ‘Regulatory Impact Assessment’ – A Tool to Strengthen Soft Law Regulations, in *SOFT LAW IN SPACE*, *supra* note 27, at 90; Andrew T. Guzman, *A Compliance-Based Theory of International Law*, 90 CAL. L. REV. 1823, 1880 (2002) (“[M]any instruments that are not considered ‘law’ under the classical definition have a substantial impact on the behavior of states.”); Nina-Louisa Remuss, *Space and Security*, in *OUTER SPACE IN SOCIETY, POLITICS AND LAW* 519, 539 (Christian Brünner & Alexander Soucek eds., 2011) (noting that even though a code of conduct is soft law, it “can still give significant impetus to both national and international political processes”).

⁴⁰ See, e.g., OGUNSOLA O. OGUNBANWO, *INTERNATIONAL LAW AND OUTER SPACE ACTIVITIES* 17–21 (1975) (noting how in the early space era, some non-legally binding U.N. General Assembly resolutions were widely recognized as codifying existing key international law principles while others paved the way for important legally binding agreements or served as a source of customary international law based on the practice of states); Geoffrey Palmer, *New Ways to Make International Environmental Law*, 86 AM. J. INT’L L. 259, 269 (Apr., 1992) (describing soft law solutions as “useful steps on a longer journey” and the point where “international law and international politics combine to build new norms”); Anne-Marie Slaughter et al., *International Law and International Relations Theory: A New Generation of Interdisciplinary Scholarship*, 92 AM. J. INT’L L. 367 (1998) (emphasizing the advantages of nonbinding soft law in the context of international governance and the generation of norms by supranational institutions and their dissemination by nongovernmental organizations).

⁴¹ See, e.g., Baseley-Walker, *supra* note 28, at 394.

⁴² See, e.g., Beatrice Fihn & Gabriella Irsten, *Addressing Challenges in Space through New Multilateral Processes*, in *AWAITING LAUNCH*, *supra* note 33, at 119, 121.

⁴³ Jessica Los Banos, *EU Code of Conduct on Activities in Outer Space: Issues that*

now posit that “[t]he development and negotiation of a code could play an important role in building international political consensus and understanding around key concepts of responsible behavior.”⁴⁴

2.2. *The Legal Significance of Soft Law*

So-called norms and standards of responsible behavior set forth in soft law instruments are, by definition, not legally binding.⁴⁵ Yet soft law principles may nonetheless ultimately have legal significance through a variety of processes.

First, soft law principles may assist in the interpretation and application of existing space law treaties and other obligations.⁴⁶ For example, Article XII of the 1972 Liability Convention provides that compensation be paid, by a launching state, for damages caused by space objects, including damages caused by space objects “carrying a nuclear power source on board,” shall be “determined in accordance with international law and principles of justice and equity”⁴⁷ The text of the Liability Convention, however, is unclear whether such compensation includes reimbursement of expenses incurred for search, recovery and cleanup operations.⁴⁸

Matter, in DECODING THE CODE, *supra* note 30, at 97, 100; see also Olarean, *supra* note 34, at 104 (noting that “non-binding tools can be used as a mechanism for harmonising national laws and practices, allowing states to move towards adherence, while keeping within their economic and technological capacities”).

⁴⁴ Gregory L. Schulte [U.S. Deputy Assistant Secretary of Defense for Space Policy] & Audrey M. Schaffer [U.S. Space Policy Advisor in the Office of the Under Secretary of Defense for Space Policy], *Enhancing Security by Promoting Responsible Behavior in Space*, 6 STRATEGIC STUD. Q. 9, 14 (Spring 2012).

⁴⁵ Ferrazzani, *supra* note 27, at 116 (referring to these non-binding principles as “light norms”).

⁴⁶ *Id.*; David Weissbrodt & Muria Kruger, *Norms on the Responsibilities of Transnational Corporations and Other Business Enterprises with Regard to Human Rights*, 97 AM. J. INT'L L. 901, 914 (2003) (noting the impact of soft law on the interpretation of treaties and on the establishment of customary international law in areas such as human rights).

⁴⁷ G.A. Res. 47/68, *Principles Relevant to the Use of Nuclear Power Sources In Outer Space*, Principle 9 (Dec. 14, 1992) <http://www.un.org/documents/ga/res/47/a47r068.htm> [<https://perma.cc/8BA4-RJXW>]; Convention on International Liability for Damage Caused by Space Objects, Mar. 29, 1972, 24 U.S.T. 2389, 961 U.N.T.S. 187.

⁴⁸ Faustino Pocar, *The Normative Role of UNCOPUOS*, in OUTLOOK ON SPACE LAW OVER THE NEXT 30 YEARS: ESSAYS PUBLISHED FOR THE 30TH ANNIVERSARY OF THE

In order to assist in the interpretation of language in legally binding agreements, including Article XII of the Liability Convention, states may make recourse under Article 31 of the Vienna Convention on the Law of Treaties to “any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation.”⁴⁹ In the case of the Liability Convention, such subsequent practice can be found in Principle 9.3 of the non-legally binding 1992 Declaration of Principles Relevant to the Use of Nuclear Power Sources in Outer Space, which provides that compensation for damage caused by space objects or their component parts “shall include reimbursement of the duly substantiated expenses for search, recovery and clean-up operations”⁵⁰ Although this specification of reimbursable expenses is contained in a soft law instrument, the fact that the instrument had been adopted by all the states parties to the Liability Convention “can be regarded as an expression of subsequent practice in the application of the Convention,” making it an authoritative basis for interpreting the Convention.⁵¹

Second, soft law instruments setting forth various technical standards, guidelines or regulations may create obligations of a procedural nature.⁵² Although these technical standards, guidelines and regulations lack legally binding force, they nonetheless may have “factual effects.”⁵³ For example, with respect to the regulation of satellite networks, the International Telecommunications Union (ITU) issues numerous recommendations and other decisions which are non-binding, but states may find themselves forced to comply with these recommendations and decisions “due

OUTER SPACE TREATY 415, 420 (Daphné Crowther & Gabriel Lafferranderie eds., 1997).

⁴⁹ Vienna Convention on the Law of Treaties, art. 31.3.b, entered into force Jan. 27, 1980, 1155 U.N.T.S. 331.

⁵⁰ *Principles Relevant to the Use of Nuclear Power Sources in Outer Space*, supra note 47, Principle 9.3.

⁵¹ Pocar, supra note 48, at 420 (noting that declarations of principles on outer space “adopted by the General Assembly play a significant role within treaty law, despite their non-binding nature, as far as they contribute to clarify the scope of rights and obligations expressed in treaties and conventions”).

⁵² Ferrazzani, supra note 27, at 116.

⁵³ Christian Brünner & Georg Königsberger, ‘Regulatory Impact Assessment’ – A Tool to Strengthen Soft Law Regulations, in *SOFT LAW IN SPACE*, supra note 27, at 87, 89 (further noting that “the decisive factor is not the form of regulation, but the ‘substance’ and the intention to regulate and influence behavior and conduct”).

to pure necessity of compliance.”⁵⁴ Non-compliance could in fact “lead to severe consequences up to complete isolation from the ‘telecommunication-world’ due to non-matching standards or outdated equipment.”⁵⁵ (ITU recommendations and regulations also help to illustrate the first point noted above, since they have enjoyed legal significance when employed as supplementary means of interpretation by arbitral tribunals and other adjudicating bodies, including World Trade Organization adjudicating bodies.)⁵⁶

Third, soft law instruments setting forth various technical standards, guidelines or regulations can lead to harmonized international procedural standards that in turn may generate legally binding domestic legislation and regulations (including domestic licensing requirements and other administrative procedures).⁵⁷ In the area of space law, such soft law procedural initiatives have clearly served as an incentive for states to create coordinated national space legislation and regulations.⁵⁸ For example, the 1986 U.N. General Assembly Resolution on “Principles Relating to Remote Sensing of the Earth from Outer Space” has played such a role.⁵⁹ Although this resolution is non-binding, its principles are widely accepted and have been incorporated in the legally binding domestic licensing regulations of numerous states.⁶⁰ They are thus

⁵⁴ Jens Hinricher, *The Law-Making of the International Telecommunication Union (ITU) – Providing a New Source of International Law?*, 64 HEIDELBERG J. OF INT’L L. 489, 499, 500 (2004) (further noting that because of the complicated underlying technical issues and the ITU’s general reputation for expertise and accuracy, the “non-binding decisions of the ITU are commonly accepted by its members as if they were binding”).

⁵⁵ *Id.* at 499.

⁵⁶ Yusuf Aksar, *International Economic Law*, in IMPLEMENTING INTERNATIONAL ECONOMIC LAW: THROUGH DISPUTE SETTLEMENT MECHANISMS 1, 41–42 (Yusuf Aksar ed., 2011) (“[R]egulations and recommendations of ITU . . . can be treated as the best fitting soft law instruments in international law”).

⁵⁷ Setsuko Aoki, *The Function of ‘Soft Law’ in the Development of International Space Law*, in SOFT LAW IN SPACE, *supra* note 27, at 57, 63 (noting that the “subcategory” of “soft law for the harmonization of national laws” includes “the tacit understanding . . . that soft law should remain as a standard for the elaboration of national law”).

⁵⁸ Ferrazzani, *supra* note 27, at 117.

⁵⁹ Principles Relating to Remote Sensing of the Earth from Outer Space, U.N. Doc. A/RES/41/65 (Dec. 3, 1986).

⁶⁰ United Nations Institute for Disarmament Research, *A Brief Overview of Norms Development in Outer Space*, 3 (2012), <http://www.unidir.org/files/publications/pdfs/a-brief-overview-of-norms-development-in-outer-space-en-462.pdf> [<https://perma.cc/37YL-G229>] (“The Remote Sensing Principles have also been incorporated into numerous national, regional, and multilateral laws

recognized, for the most part, as international obligations in the U.S. space regulatory regime, which requires those persons licensed to operate any private remote-sensing space system to comply with key principles set forth in the resolution.⁶¹

Fourth, soft law instruments seeking to frame new norms of cooperation may later form the basis of legally binding international agreements.⁶² This phenomenon was notably demonstrated in the early era of space exploration when several key principles set forth in non-binding U.N. General Assembly Resolutions were subsequently codified in legally binding multilateral agreements governing activities in space.⁶³ For example, the foundational “non-appropriation principle,” barring states from claiming sovereignty over outer space and celestial bodies, was first expressed in a U.N. General Assembly Resolution in 1961 and subsequently formed the basis of Article II of the Outer Space Treaty.⁶⁴

Fifth, specific provisions in a soft law instrument may eventually crystallize into rules of customary international law.⁶⁵ Several U.N. General Assembly resolutions conspicuously served this purpose early in the space era.⁶⁶ Widely accepted non-binding tech-

and policies, including those of France, Japan, India, Thailand, and the United States of America”).

⁶¹ Michael Hoversten, *U.S. National Security and Government Regulation of Commercial Remote Sensing from Outer Space*, 50 A.F. L. Rev. 253, 263-64 (2001). Under U.S. law, no person subject to U.S. jurisdiction may directly or indirectly operate any private remote-sensing space system without first obtaining the appropriate license from the Department of Commerce. 15 U.S.C. § 5601 (1992); see also, JULIAN HERMIDA, *LEGAL BASIS FOR A NATIONAL SPACE LEGISLATION* 96 (2004) (noting that the requirements to obtain a license to operate private remote sensing space systems include “observ[ing] the international obligations of the United States”).

⁶² Ferrazzani, *supra* note 27, at 116-117 (noting how soft law may help in “the process of early elaboration of detailed obligations to be subsequently formalised under the law of international agreements”).

⁶³ OGUNBANWO, *supra* note 40, at 17-21.

⁶⁴ G.A. Res. 1721 (XVI) A, *International Co-operation in the Peaceful Uses of Outer Space* (Dec. 20, 1961); Steven Freeland, *The Role of ‘Soft Law’ in Public International Law and its Relevance to the International Legal Regulation of Outer Space*, in *SOFT LAW IN SPACE*, *supra* note 27, at 9, 26 (further noting that the non-appropriation principle may have achieved the status of a rule of customary international law even before the adoption of the General Assembly Resolution 1721 and the conclusion of the Outer Space Treaty).

⁶⁵ Christine M. Chinkin, *The Challenge of Soft Law: Development and Change in International Law*, 38 INT’L & COMP. L. Q. 850, 857 (Oct., 1989); see also Freeland, *supra* note 64, at 26 (also noting that soft law provisions “may even be declaratory of customary international law in certain circumstances”).

⁶⁶ Vereshchetin & Danilenko, *infra* note 286, at 25 (noting that “[t]he accelera-

nical standards, guidelines and other regulations, such as ITU decisions and recommendations, may also be cited as evidence of general state practice, helping to potentially shape and form rules of customary international law.⁶⁷ Soft law's role in sometimes contributing to the formation of customary international law has thus been an important factor in the development of space law, and proponents of the Code point to the likelihood (in their view) of provisions in the Code eventually becoming binding rules of customary international law.⁶⁸

Each legally significant process and aspect of soft law has been reflected in important ways in the development of the legal framework that now governs activities in space. Soft law is thus a long established, vital component of the space law regime and there is an increasing tendency of the international community to rely on soft law instruments to assist in numerous areas of space activity.⁶⁹ It should be noted, however, that not all soft law in-

tion of the formation of customary principles relating to outer space was brought about not only by the fact that all actions of states in the field of exploration and use of outer space were immediately known all over the world, but also by the adoption of a number of United Nations General Assembly resolutions"). It should be noted, however, that the U.N. General Assembly has the power only to make "recommendations to the . . . Members of the United Nations." U.N. Charter art. 63, ¶ 2. In order to form the basis of customary international law, such resolutions must purport to state legal principles, enjoy a very high degree of consensus, and be reflected in the subsequent general practice of states acting out of a sense of legal obligation. See RESTATEMENT (THIRD) OF FOREIGN RELATIONS LAW §103 cmt. c (1987) (observing that resolutions of universal organizations, "if not controversial and if adopted by consensus or virtual unanimity, are given substantial weight" in the identification of international law); *Id.* at §103 Reporters Note 2 (observing that "[e]ven a unanimous resolution may be questioned when the record shows that those voting for it considered it merely a recommendation or a political expression, or that serious consideration was not given to its legal basis. A resolution is entitled to little weight if it is contradicted by state practice . . .").

⁶⁷ Hinricher, *supra* note 54, at 499-501 (noting that the ITU is involved "in reshaping and supplementing international law" and that "the overall compliance of states with non-binding recommendations issued by international organisations such as the ITU can . . . slowly evolve into binding customary rules and practices").

⁶⁸ Remuss, *supra* note 39, at 539; Los Banos, *supra* note 43, at 100 (arguing that the Code "will lay the groundwork to transform commitments into legally binding obligations either through the enactment of a treaty or their crystallization into customary international law in the future").

⁶⁹ Ferrazzani, *supra* note 27, at 117 ("Whatever the history of space law may tell, soft law is already there, non-legally binding but vital, helping significantly in the establishment and development of international space relations."); Freeland, *supra* note 64, at 25-26 ("There is a clear trend towards the use of such [soft law] instruments, continuing the long-established understanding that soft law is a well-accepted methodology for furthering . . . endeavors in outer space").

struments lead to the formation of new rules of customary international law or serve as the basis for new legal regimes. In some cases, these instruments may be illusory achievements, presenting “only the appearance of genuine agreement and shared understanding when in fact there is none.”⁷⁰ In addressing arms control and security issues, these instruments may also create their own problems, thus causing more harm than good (as discussed below in Part 3).

2.3. *Soft Law as the Proposed Solution for Space: The Code*

In recent years, several diplomatically-driven soft law initiatives related to space activities have received considerable attention at the United Nations. For example, since 2005, the U.N. General Assembly has promoted the development and adoption of so-called “Outer Space Transparency and Confidence-Building Measures” (TCBMs).⁷¹ As part of these efforts, a Governmental Group of Experts (GGE) was formed in 2011 with the mandate “to conduct a study . . . on outer space transparency and confidence-building measures” and submit a final report to the General Assembly.⁷² In late 2013, the General Assembly received and endorsed the final GGE report and encouraged U.N. Member States to review and implement the proposed soft law measures through relevant national mechanisms on a voluntary basis.⁷³

The EU’s development of an international code of conduct for

⁷⁰ RICHARD B. BILDER, *MANAGING THE RISKS OF INTERNATIONAL AGREEMENT*, 38 (1981) (noting how commentators have observed that some soft law techniques, such as the employment of equivocal or ambiguous language, may result in agreements that are “wholly illusory and not useful”).

⁷¹ Since 2005, the U.N. General Assembly has annually adopted resolutions promoting TCBMs. These efforts have enjoyed the strong support of many governments, particularly the Russian Federation. See Department of Security Affairs and Disarmament & Ministry of Foreign Affairs of the Russian Federation, *Russian Approaches towards Ensuring Security in Space*, in *DECODING THE CODE*, *supra* note 30, at 117.

⁷² G.A. Res. A/65/68, U.N. Doc. A/RES/65/68, *Transparency and Confidence-Building Measures in Outer Space Activities* (Jan. 13, 2011), available at http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/65/68 [https://perma.cc/8E4X-D2AZ].

⁷³ G.A. Res. 68/50, U.N. Doc A/RES/68/50, *Transparency and Confidence-Building Measures in Outer Space Activities* (Dec. 10, 2013), available at http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/68/50 [https://perma.cc/2KVG-SHVM].

outer space is not directly related to GGE activities,⁷⁴ although the Code does contain several voluntary TCBMs similar to those recommended by the GGE in its final report. These include provisions encouraging states to endeavor to organize the following activities on a voluntary basis: familiarization visits to improve understanding of a state's policies and procedures for outer space activities; expert visits to space launch sites, flight control centers, and other outer space infrastructure facilities; observations of launches of space objects; demonstrations of rocket and other space-related technologies; dialogues to clarify information on outer space activities; and thematic workshops and conferences on the exploration and use of outer space.⁷⁵

The Code, however, contains more than just traditional TCBMs like those recommended by the U.N. General Assembly. The latest draft of the Code is subdivided into four sections (Core Principles and Objectives, General Measures, Cooperation Mechanisms, and Organizational Aspects) and its stated purpose is "to enhance the safety, security, and sustainability of all outer space activities pertaining to space objects, as well as the space environment."⁷⁶ To achieve these goals, states subscribing to the Code resolve to perform a variety of actions, including notifying other subscribing states of designated space activities (without distinction as to their military or civilian nature), including pre-notification of the launch of space objects and scheduled maneuvers that could pose a risk to the safety of flight of the space objects of other States.⁷⁷

States further resolve, pursuant to the Code, to annually share information with the other subscribing states related to their "space strategies and policies, including those which are security-related, in all aspects which could affect the safety, security, and sustainability in outer space" as well as their "major outer space research and space applications programmes."⁷⁸ Good faith efforts

⁷⁴ Although the General Assembly resolution endorsing the final GGE report explicitly recognized "the presentation by the European Union of a draft of a non-legally binding international code of conduct for outer space activities," the Code has proceeded on a sometimes parallel – but separate – track. *Id.*

⁷⁵ Code, *supra* note 32, art. 6.4.

⁷⁶ *Id.*, art. 1.1. Art. 1.3 further provides that "[t]his Code establishes transparency and confidence-building measures, with the aim of enhancing mutual understanding and trust, helping both to prevent confrontation and foster national, regional and global security and stability"

⁷⁷ *Id.*, art. 5.1.

⁷⁸ *Id.*, art. 6.1.

to fully implement such provisions on notification and sharing of information may raise serious issues for the military agencies of some spacefaring countries, particularly with respect to divulging information relating to their sensitive technology and national security.⁷⁹

Other provisions in the Code, which could be interpreted to restrict specific military activities and programs, raise additional national security concerns for some states. For example, the Code contains five different provisions related to a subscribing state's responsibility to prevent "harmful interference" to another state's space activities and objects, including section 4.1 in which subscribing states "resolve to establish and implement policies and procedures to minimize . . . any form of harmful interference with another State's peaceful exploration, and use, of outer space."⁸⁰

The Code, however, does not define the broad term "harmful interference," (which could encompass diverse types of actions causing direct, indirect, or temporary effects), nor does it make any distinction between military and civilian activities that might cause such harmful interference. While the elusive, undefined term harmful interference is found in several agreements relating to space, it is used in those agreements in much more limited contexts than as a comprehensive prohibition of all forms of harmful interference with space objects.⁸¹

⁷⁹ Ajey Lele, *Deliberating the Space Code of Conduct*, in *DECODING THE CODE*, *supra* note 30, at 13, 20 ("No state would like to share technical information which could be used to understand, and probe more deeply into, its scientific and technological capabilities").

⁸⁰ Code, *supra* note 32, § 2. (¶¶ 25 and 27), 4.1, 6.1 and 7.1.

⁸¹ See, e.g., Outer Space Treaty, *supra* note 4, art. IX (authorizing a state party to request consultation when there is reason to believe that the activity of another state party or its nationals would cause potentially harmful interference with activities in the peaceful exploration and use of outer space); see also David A. Koplow, *An Inference About Interference: A Surprising Application of Existing International Law to Inhibit Anti-Satellite Weapons*, 35 U. PA. J. INT'L L. 737, 781-793, 815 (2014) (cataloguing agreements that contain references to interference and noting in particular how various defunct and extant U.S.-Russia bilateral arms control treaties contain provisions that prohibit interference with "National Technical Means" or "NTM" spy satellites which are used to verify compliance with treaty commitments). Although Professor Koplow propounds a thesis that a test or use in space of a debris-creating ASAT would be illegal under existing international law because it would result in a dangerous, persistent debris stream that would, at some point, "impermissibly interfere with the operation of treaty-protected NTM satellites," he notes that at this time "there are simply not enough treaties containing the explicit NTM provisions to create [on that basis alone] a truly comprehensive, global restriction on ASAT activities."

The absence of any definitions of key terms in the Code (including the term harmful interference) is recognized even by proponents of the Code as a significant failure.⁸² Critics of the Code (including numerous members of the U.S. Congress) argue that good faith efforts to fully implement its broad terms could have far-reaching negative consequences for U.S. military and intelligence activities and programs in space.⁸³

Several countries have questioned whether the Code is an appropriate mechanism to address the military aspects of outer space, an area that has traditionally been reserved for deliberations by the U.N. Conference on Disarmament (the CD) and its Prevention of an Arms Race in Outer Space (PAROS) process.⁸⁴ Russia in particular has sought to distance the proposed Code from the PAROS process and has refrained from supporting the Code, preferring instead its own proposed legally-binding international agreement (submitted jointly with the government People's Republic of China to the CD), entitled the "Draft Treaty on the Prevention on the Placement of Weapons in Outer Space" (the PPWT).⁸⁵

⁸² See Tronchetti, *supra* note 29, at 361, 377 (while viewing the Code as a step in the right direction, the author notes that the absence of any definition of key terms is a "negative aspect" of the Code, one which "may lead to uncertainties in the interpretation and application of its provisions").

⁸³ Letter from Thirty-Seven Senators to Hillary Clinton, U.S. Sec'y of State (Feb. 2, 2011) (on file with author) (describing the Code as a "multilateral commitment with a multitude of potential highly damaging implications for sensitive military and intelligence programs (current, planned or otherwise) . . .").

⁸⁴ Mohamed Hatem Elatawy, *ICoC: Recommendations for Further Elaboration, in Awaiting Launch*, *supra* note 33, at 45, 49 ("[A] number of countries question the prerogative of this Code to deal with the military aspects of outer space, an area that has traditionally been reserved to the CD [Conference on Disarmament]"). Since the CD established the Ad Hoc Committee on PAROS (now defunct) in 1985, arms control initiatives have been a regular feature of CD discussions, although a common approach regarding a legally binding PAROS instrument has been not been achieved. See Paul Meyer, *The Conference on Disarmament and the Prevention of an Arms Race in Outer Space*, 6, <http://www.unidir.org/files/publications/pdfs/the-conference-on-disarmament-and-the-prevention-of-an-arms-race-in-outer-space-370.pdf> [<https://perma.cc/N3QC-YE7L>] ("The consideration of outer space from an arms control and disarmament perspective has a long pedigree at the CD").

⁸⁵ See Ministry of Foreign Affairs of the Russian Federation, *supra* note 71, at 118 (noting how Russia has insisted on differentiating between the subject matter and legal basis of the PPWT and Code, and has argued that the drafting of the Code "must not undermine our efforts aimed at elaborating the PPWT"). The first draft of the PPWT was proposed on Feb. 29, 2008. See *Draft Treaty on the Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects*, Conference on Disarmament, CD 1839, Feb. 29, 2008, <http://www.cfr.org/content/publications/attachments/PPWT.pdf>

The relevance of the Code to military activities in space is nonetheless clear, having been originally developed, as noted, in response to the 2007 Chinese ASAT test.⁸⁶ Although the Code is not stylized as an arms control initiative and does not explicitly prohibit any military technologies in space, it nonetheless is designed to be a “comprehensive” proposal which is intended “to establish norms of behaviour for all space activities, both in the civilian and military domains of outer space.”⁸⁷ The text of the Code notes “the importance of preventing an *arms race* in outer space” and “the responsibility of States, in the conduct of scientific, civil, commercial and *military* activities, to promote the peaceful exploration and use of outer space for the benefit, and in the interest, of humankind and to take all appropriate measures to prevent outer space from becoming an arena of conflict.”⁸⁸

In spite of the limitations of soft law, numerous commentators argue that the Code, as a soft law initiative, is the “first step towards addressing the global security concerns caused by our increased presence in outer space.”⁸⁹ A similar, favorable view of a non-binding code of conduct for outer space activities is also generally reflected in current U.S. Department of Defense policies. For example, the Assistant Secretary of Defense for Public Affairs noted in 2012 that the European Union’s draft plan was “a promising

[<https://perma.cc/6G4T-RZ6X>]. The latest draft PPWT was proposed on Sept. 3, 2015. See *Draft Treaty on the Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects*, Conference on Disarmament, CD 1985, June 12, 2014, Art. I.b, available at <http://reachingcriticalwill.org/images/documents/Disarmament-fora/cd/2014/documents/PPWT2014.pdf> [<https://perma.cc/K7W3-9T78>].

⁸⁶ Kazuto Suzuki, *ICoC and the Right of Self Defense*, in Awaiting Launch, *supra* note 33, at 87, 90 (“[T]he ICoC was developed as a response to the Chinese ASAT test in 2007. The ASAT test created a large cloud of space debris that would increase the risk of collision with their space assets. This sort of intentional creation of debris for any purpose was unacceptable for many countries”).

⁸⁷ Rajeswari Pillai Rajagopalan & Daniel A. Porras, *Preface to Awaiting Launch*, *supra* note 33, at 1 (“The ICoC is a comprehensive proposal, trying to establish norms of behaviour for all space activities, both in the civilian and military domains of outer space.”); Code, *supra* note 32, Preamble, ¶ 13 (“[r]ecognizing the necessity of a comprehensive approach to safety, security, and sustainability in outer space . . .”).

⁸⁸ Code, *supra* note 32, Preamble ¶ 6 and art. 2 (emphasis added).

⁸⁹ Beatrice Fihn & Gabriella Irsten, *Addressing Challenges in Space through New Multilateral Processes*, in Awaiting Launch, *supra* note 33, at 119, 120 (further noting that the ICoC is “an example of a recent trend in security policies, to move beyond deadlocked forums and traditional framing of problems, to encouraging creative thinking and alternative methods of moving forward”).

basis for an international code,” and that “[a]n international code of conduct can enhance U.S. national security by encouraging responsible space behavior by reducing the risk of mishaps, misperceptions and mistrust.”⁹⁰

Soft law is not, however, a panacea for the problems of space, particularly those related to security. As discussed below, soft law instruments have fundamental limitations in addressing security matters, particularly in unstable geopolitical environments. Further, they risk increasing tensions and undermining meaningful legal constraints.

3. SOFT LAW: A PROBLEMATIC DESIGN CHOICE FOR ARMS CONTROL INITIATIVES

3.1. *The Challenges of Arms Control*

The concept of arms control encompasses a wide variety of measures that rival states may undertake to achieve diverse objectives, including: mutually reducing levels of armaments; eliminating entire classes of weapon systems; restricting or regulating military activities which increase the risk of accidents or conflict; increasing predictability in relations between hostile states; reducing fears about the intentions of potential adversaries; and, preempting the development or deployment of new types of weapons.⁹¹

Varied bilateral and multilateral instruments that are intended to serve as arms control measures between adversary states must, however, overcome many hurdles to be established and face severe challenges in functioning effectively. This is particularly true in the domain of space, where conditions encouraging an arms race

⁹⁰ Lisa Daniel, *Defense, State Agree to Pursue Conduct Code for Outer Space*, DOD NEWS (Jan. 18, 2012), <http://archive.defense.gov/news/newsarticle.aspx?id=66833> [<https://perma.cc/SGH3-K9MW>]; see also *DOD Fact Sheet: International Code of Conduct for Outer Space Activities, 2011*, DEFENSE.GOV, http://archive.defense.gov/home/features/2011/0111_nsss/docs/FINAL_DoD_Fact_Sheet_International_Code-2012_1-17-12.pdf [<https://perma.cc/Q6NR-4NGR>] (last visited July 13, 2015) (stating that “[a]n international Code of Conduct can enhance U.S. national security”).

⁹¹ JOZEF GOLDBLAT, *ARMS CONTROL: THE NEW GUIDE TO NEGOTIATIONS AND AGREEMENTS* 10–11 (2002).

abound. Fears, suspicions and accusations about new space weapon systems and military space projects continue to multiply, as evidenced particularly by the growing concerns expressed by Russia and China on the one hand, and by America on the other, about each other's space programs.

Such fears and suspicions can contribute to the classic "security dilemma," in which actions taken by a state intended to be defensive in nature are instead perceived by other states as aggressive or threatening, producing unintended and undesired consequences.⁹² Arms races are "only the most obvious manifestation" of the resulting downward spiral of these misperceptions.⁹³ Predictable and yet unnecessary counter-measures may thus be taken by "threatened" states (for example, as U.S. rivals are developing their own responses to a spaceplane like the X-37B), causing further insecurity and fueling more dangerous and expensive arms races in space.⁹⁴

The classic security dilemma is made even more acute in space because a state may feel threatened by an adversary's development and deployment of technologies that are dual-use in nature, meaning that they can be readily employed for both civilian and military uses.⁹⁵ The abundance of dual-use technologies in space may thus further obscure an adversary's real intentions and make it even more difficult to distinguish between defensive and offensive postures (and the possibility that new, devastating military advantages have been achieved).

In this extremely challenging space environment, one which is characterized by high risk and great insecurity, states struggle to achieve arms control agreements and other collaborative security measures. Because the stakes in international politics are typically so high (implicating a state's survival or extinction), the fear of exploitation is likely to motivate a state to follow its "dominant strategy," i.e., cheating or defecting, in the absence of any genuine col-

⁹² ROBERT JERVIS, PERCEPTION AND MISPERCEPTION IN INTERNATIONAL POLITICS 66 (1976) (further quoting Herbert Butterfield as positing that the security dilemma is an "absolute predicament" that "lies in the very geometry of human conflict").

⁹³ *Id.*

⁹⁴ *Id.*; *US X-37B Spurs China to Seek Countermeasures: Russian Expert*, CHRISTIAN SCIENCE MONITOR, www.wantchinatimes.com/news-subclass-cnt.aspx?id...cid=1101.

⁹⁵ JAMES CLAY MOLTZ, CROWDED ORBITS: CONFLICT AND COOPERATION IN SPACE 12 (2014) (noting that an "essential fact" of space technology is "its dual-use nature").

laborative agreement.⁹⁶ It is thus not surprising that arms control agreements are “highly institutionalized,” with implementing regimes that “are continually concerned with compliance and policing,” and “specify verification and monitoring procedures.”⁹⁷

For example, the START I Treaty⁹⁸ established an elaborate and effective verification regime that allowed the parties to remain confident in each other’s compliance with obligations related to the reduction of nuclear warheads and delivery vehicles.⁹⁹ The regime provided numerous methods (including mandatory on-site inspections) for the parties to gather and confirm needed information about the other party’s treaty-limited forces.¹⁰⁰ It also prohibited each party from interfering with the other party’s treaty-related surveillance and monitoring capabilities, so-called “National Technical Means” (principally spy satellites), and established the Joint Compliance and Inspection Commission for the discussion of treaty implementation issues and compliance questions.¹⁰¹

While verification, monitoring, compliance and policing activities are routinely associated with effective arms control regimes, all these features depend on an even more fundamental, underlying attribute: the nature of the commitment. The nature of commitments in international instruments may, however, be dramatically altered by soft law design choices.

A common virtue often attributed to soft law instruments is the ease with which states are able to conclude them (compared with the lengthier and more difficult process associated with hard law agreements). In negotiating the design of international instru-

⁹⁶ ARTHUR A. STEIN, *WHY NATIONS COOPERATE: CIRCUMSTANCE AND CHOICE IN INTERNATIONAL RELATIONS* 40 (1993) (further describing arms control agreements as “notoriously problematic”).

⁹⁷ *Id.*

⁹⁸ Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Reduction and Limitation of Strategic Offensive Arms, U.S.-U.S.S.R., art. III, ¶¶ 9, 6, 4, July 31, 1991, S. Treaty Doc. No. 102-20 (1991).

⁹⁹ GOLDBLAT, *supra* note 91, at 91 (“[The START I Treaty] provided each side with transparency and predictability with regard to the strategic nuclear programmes of the other side . . .”); *see also* Allan S. Krass, *The People, the Debt, and Mikhail*, 47 BULL. ATOMIC SCIENTISTS 12, 13 (November 1991) (noting that the verification provisions in START I treaty “were elaborate, comprehensive, and intrusive beyond the dreams of even the most idealistic disarmers of the 1950s”).

¹⁰⁰ AMY F. WOOLF, CONG. RESEARCH SERV., R 40084, *STRATEGIC ARMS CONTROL AFTER START: ISSUES AND OPINIONS* 6-9 (March 4, 2010); Goldbatt, *supra* note 100, at 91 (noting that the START I Treaty was credited with “institutionaliz[ing] unprecedentedly extensive and intrusive measures of verification”).

¹⁰¹ *Id.*

ments, states may consider numerous “systemic trade-offs” in substance, structure and obligation.¹⁰² The results of these trade-offs are different types of instruments which display varying degrees of effectiveness and display different levels of difficulty to achieve.

States may choose to employ soft law design elements (such as weakening precision and/or obligation) for many reasons.¹⁰³ In making this choice, however, states may also delay, sacrifice or even impede meaningful progress on the issues of mutual concern which are addressed in soft law instruments.

3.2. *Soft Law Design Choice: Weakening Precision*

One important soft law design choice in constructing many international instruments is the decision to employ vague, imprecise, ambiguous or otherwise indeterminate language. Indeterminate language may be a satisfactory design feature for some areas of international cooperation, but it is a dangerous choice for arms control regimes. The requirements typically associated with arms control regimes are well known, and one is that they “must define cheating quite explicitly.”¹⁰⁴ There are fundamental reasons for this requirement.

A state contemplating foregoing the development and deployment of new weapon systems in favor of pursuing international cooperation will be reluctant to do so if adversary states are not part of a collaborative regime with a degree of formalization. Such a collaborative regime “must specify what constitutes cooperation and what constitutes cheating, and each actor must be assured of its ability to spot immediately others’ cheating.”¹⁰⁵ The dilemma of

¹⁰² See Kal Raustiala, *Form and Substance in International Agreements*, AM. J. INT’L L 581, 582 (2005) (suggesting that legality, substance, and structure can be viewed as “distinct design elements” that should be viewed as a whole in evaluating the effectiveness of international agreements).

¹⁰³ See Abbott & Snidal, *supra* note 38, at 423 (suggesting that a number of variables, including “transactions costs, uncertainty, implications for national sovereignty, divergence of preferences, and power differentials” influence which forms of soft law are likely to be selected by states in the particular circumstances that confront them).

¹⁰⁴ STEIN, *supra* note 96, at 40.

¹⁰⁵ *Id.*; see also BILDER, *supra* note 70, at 117-118 (noting the importance of prompt detection and clear determination of breach in order for effective risk-management systems. Professor Bilder further suggests that if a nation is considering violating its own obligations under an agreement, “[i]t will be less likely to

common interests in this scenario, against the backdrop of perceived security threats, is often modeled in game theory as a prisoners' dilemma in which each state actor's dominant strategy is to cheat (even if all actors would actually prefer arms control or disarmament over a spiraling arms race).¹⁰⁶

It is in this context that game theorists and other writers argue that the obligations in an arms control regime must be sufficiently precise to ensure that actors can recognize defection.¹⁰⁷ Elaborate monitoring, policing and compliance verification structures in such a regime have little value without clear obligations and the ability to recognize cheating. Precision in individual commitments, as well as coherence between those commitments and broader legal principles, framed by "accepted modes of legal discourse and argument," also assist by discouraging states from engaging in "auto-interpretation" and other opportunistic behavior regarding their obligations.¹⁰⁸

The lack of precision in individual commitments, which gives rise to indeterminate normative standards, thus makes it harder for states to know what conformity is expected and also makes it easier for states to justify noncompliance.¹⁰⁹ Conversely, the lack of precision may also result in uncertainty and tension as some states attempt to assert highly restrictive interpretations of ambiguous terms. To avoid these problems, especially in the area of arms control, a nation is likely to "seek to describe the performance expected of the other nation as clearly and precisely as possible in the agreement."¹¹⁰ Thus, in pursuing major arms control agreements

do so if it realizes that its nonperformance will be readily apparent and clearly labeled as a violation" Conversely, Bilder argues that "if the other nation believes that its obligation is ambiguous or uncertain, it will see itself as in a better position to justify or excuse nonperformance or inadequate performance . . .").

¹⁰⁶ STEIN, *supra* note 96, at 40.

¹⁰⁷ See, e.g., ROBERT AXELROD, *THE EVOLUTION OF COOPERATION* 140 (1984) (suggesting that recognizing defection is an important requirement in promoting cooperation and that the "scope of sustainable cooperation can be expanded by any improvements in the players' ability to recognize each other from the past, and to be confident about the prior actions that have actually been taken").

¹⁰⁸ Abbott & Snidal, *supra* note 38, at 427.

¹⁰⁹ Thomas M. Franck, *Legitimacy in the International System*, 82 AM. J. INT'L L. 705, 714 (1988) ("Put conversely, the more determinate the standard, the more difficult it is to resist the pull of the rule to compliance and to justify noncompliance").

¹¹⁰ BILDER, *supra* note 70, at 118 (noting that the proposed 1979 SALT II Treaty between the United States and Soviet Union contains elaborate provisions attempting to define the obligations of each party in the most careful and precise

with the Soviet Union, the United States “opted for increasingly detailed agreements, on the ground that they reduce interpretative leeway.”¹¹¹

Key undefined terms in the Code, particularly the critical prohibition on harmful interference, serve as examples of the difficulties associated with using imprecise language to regulate military, intelligence and security activities. Similarly, provisions requiring the exchange of information related to a state’s “major outer space research and space applications programmes” are undefined and problematic when broadly applied to these activities.¹¹²

With respect to efforts to discern the meaning of ambiguous language in instruments like the Code, it is also important to note that non-legally binding, political commitments do not benefit from the recognized legal modes of discourse that govern the interpretation of terms in legally binding international agreements (particularly through the application of the Vienna Convention on the Law of Treaties).¹¹³ The Vienna Convention on the Law of Treaties provides a comprehensive framework of rules for the observance, operation, application and interpretation of *legally binding agreements*, as well as rules governing their conclusion, entry into force, amendment, invalidity, termination and suspension. Specific provisions in the Vienna Convention address all aspects of the interpretation of legally binding agreements, including rules for determining the meaning of language which remains ambiguous after the application of other provisions specifying the context, materials and subsequent practice of the parties to be examined.¹¹⁴ No such rules exist under international law for resolving disputes regarding the interpretation of ambiguous language in soft law instruments.

The impact of broad and ambiguous terms, particularly on regime compliance by states, should not be underemphasized.¹¹⁵ The

terms”).

¹¹¹ ABRAM CHAYES & ANTONIA HANDLER CHAYES, *THE NEW SOVEREIGNTY: COMPLIANCE WITH INTERNATIONAL REGULATORY AGREEMENTS* 11 (1995) (noting in this regard that the Strategic Arms Reduction Treaty signed in 1989 “is the size of a telephone book”).

¹¹² CODE, *supra* note 32, § 6.1 (requiring Subscribing States to share this information on an annual basis with other Subscribing States “where available and appropriate”).

¹¹³ Jack L. Goldsmith & Eric A. Posner, *International Agreements: A Rational Choice Approach*, 44 VA. J. INT’L L. 113, 129 (2003).

¹¹⁴ Vienna Convention on the Law of Treaties, *supra* note 49, articles 31–32.

¹¹⁵ See Chayes & Chayes, *supra* note 111, at 10 (stating that “ambiguity and

uncertainties that indeterminate language generates in the field of arms control presents its own dangerous risks since (as discussed above), states rely on precise language in arms control agreements for specific purposes and fundamental reasons. The broad and vague language found in the Code, which will be subject to varied interpretations by states, may thus “generate more, rather than less, tension in space.”¹¹⁶

In contrast to the uncertainty and non-compliance associated with imprecise rules, it is argued that “greater clarity conduces to compliance.”¹¹⁷ For example, in reviewing numerous agreements with a high degree of specificity, Thomas Franck observed that “the high degree of textual determinacy goes together with a high degree of rule-conforming state behavior.”¹¹⁸ Determinacy in such agreements appears to have its own “compliance pull,” while the absence of determinacy in other agreements makes it unlikely that states will have compunctions about non-compliance.¹¹⁹ Rule-conforming state behavior is thus enhanced by a rule’s determinacy, which in turn “depends upon the clarity with which it is able to communicate its intent and to shape that intent into a specific situational command.”¹²⁰

Clear and determinate rules, accompanied by rule-conforming state practice, may ultimately give rise to legally binding rules in customary international law and may also lay the foundation for legally binding conventions.¹²¹ However, the indeterminate lan-

indeterminacy of treaty language” is one of the key circumstances “that lie at the root of much of the behavior that may seem to violate treaty requirements”).

¹¹⁶ Jeff Kueter, *Do We Need a Code of Conduct for Space?*, GEORGE C. MARSHALL INST., 3-4 (Feb. 21, 2012), <http://marshall.org/wp-content/uploads/2013/09/1060.pdf> [<https://perma.cc/2D4W-V4GP>].

¹¹⁷ Franck, *supra* note 109, at 721.

¹¹⁸ *Id.*, at 719 (citing numerous examples of agreements that have a “high degree of specificity” and which are “almost invariably obeyed.” These agreements include those establishing rules related to: protecting diplomats; the making, interpreting and obligation of treaties; jurisdiction over vessels on the high seas, and in territorial waters and ports; jurisdiction over aircraft; copyright and trademarks; international usage of posts; telegraphs, telephones and radio waves; rules governing embassy property; rights of passage of naval vessels in peacetime, and; treatment of war prisoners).

¹¹⁹ *Id.*, at 713-14 (further noting that “the more determinate the standard, the more difficult it is to resist the pull of the rule to compliance and to justify non-compliance”).

¹²⁰ *Id.*, at 725.

¹²¹ See, e.g., *N. Sea Cont'l Shelf Case (F.R.G./Den., F.R.G./Neth.)*, 1969 I.C.J. 3, ¶ 71 (noting that it is possible for an article in a convention to be viewed as “norm-creating,” thus constituting the foundation of, or generating, a rule

guage used in the Code provides neither clear rules nor a sound basis for developing a legally binding regime.¹²² Instead, such language appears to merely mask a failure by states to agree on key terms and definitions. It reflects their decision, one that is often made by diplomats in contentious negotiations, to paper over their differences in order to achieve what is sometimes referred to as “constructive ambiguity.”¹²³ Rather than representing a meaningful meeting of the minds, some scholars suggest that such language merely represents a type of “deferred confrontation.”¹²⁴ In the context of arms control, instruments that largely reflect the results of deferred confrontation are neither reliable documents on which to build legal regimes, nor do they provide assurances of any state’s compliance with regime objectives.

In an insecure environment in which states confront evolving threats from complex military technologies and seek to establish arms control regimes, scholars applying game theory suggest that defensive defections from regimes by states may be avoided by relying on both verification measures and on a “strategy of assurance.”¹²⁵ Assurance devices help a state give other states confidence in its own cooperation and compliance, with the aim of permitting each state party to adhere to the mutually preferred co-

“which, while only conventional or contractual in its origin,” later passes “into the *general corpus* of international law, and is accepted as such by the *opinio juris*, so as to have become binding even for countries which have never, and do not, become parties to the Convention.”)

¹²² *Id.* at ¶ 72 (observing in the case of a disputed term in an international convention that the “still unresolved controversies as to the exact meaning and scope” of the term “must raise further doubts as to the potentially norm-creating character of the rule”).

¹²³ Orde F. Kittrie, *Intellectual Relations: More Process Than Peace: Legitimacy, Compliance, and the Oslo Accords*, 101 MICH. L. REV. 1661, 1670–71 (2003) (describing constructive ambiguity as “the deliberate use of vague, equivocal, or ambiguous language capable of being interpreted by each party as protecting its own interests” and how the reliance on this particular methodology as a key element in the Oslo process peace process was counterproductive.).

¹²⁴ AHARON KLIEMAN, CONSTRUCTIVE AMBIGUITY IN MIDDLE EAST PEACE-MAKING 54–55, 117 (1999). Professor Klieman further argues that “by leaving core values, issues or interests vague and unsettled,” the use of ambiguous language with respect to key issues “is guaranteed to be the source for later difficulties.” In discussing the impact of such language on the international community, he also questions how “intentional ambiguity” can be “reconciled with calls for transparency, candor and commitment in international relations.” *Id.*

¹²⁵ Kenneth W. Abbott, *Trust But Verify: The Production of Information in Arms Control Treaties and Other International Agreements*, CORNELL INT’L L.J. 1, 23 (1993).

operative course of action.¹²⁶ A state may thus provide other states with various types of information about its own compliance as an assurance device in arms control scenarios where the benefits of cooperation are great, but the potential for cheating is also great and the costs of opportunism and misplaced trust are high. In this situation, "hard legal commitments" can serve as critical assurance devices.¹²⁷

The type of commitment that states communicate or signal to each other in an arms control regime is fundamentally important. Commitments made by states and intended as assurance devices can only be effective if they are made in a credible fashion.¹²⁸ Such "credible commitments" are crucial in many aspects of contracting theory, game theory and in high-stakes arms control scenarios when one party relies on the future performance by others while it complies with its own side of the bargain.¹²⁹

Efforts by states to make credible commitments to other states are fundamentally undermined when the legitimacy of those commitments is diminished by textual indeterminacy.¹³⁰ A rule cannot be legitimate if it cannot communicate "what conduct is permitted and what conduct is out of bounds."¹³¹ Although states may choose to not employ precise terms, opting instead for an easier, more flexible soft law approach by adopting an instrument containing indeterminate language (as in the case of the proposed

¹²⁶ *Id.*

¹²⁷ Abbott & Snidal, *supra* note 38, at 429 (noting that "[S]tates should use hard legal commitments as assurance devices when the benefits of cooperation are great but the potential for opportunism and its costs are high").

¹²⁸ Abbott, *supra* note 125, at 23 ("[w]hat is needed to ensure continued cooperation is a way for each player to communicate its ongoing commitment to the cooperative result in a credible fashion").

¹²⁹ Abbott & Snidal, *supra* note 38, at 426, 429 (further noting that "states should use hard legalization to increase the credibility of commitments when noncompliance is difficult to detect, as in most arms control situations"). In the event that noncompliance is alleged, legally binding agreements (unlike soft law instruments) are also governed by near-universally accepted rules of international law which assist the parties in determining what constitutes a material breach and allow any or all of them to suspend or terminate the agreement in accordance with specified conditions. Vienna Convention on the Law of Treaties, *supra* note 49, arts. 60, 65.

¹³⁰ Franck, *supra* note 109, at 713, 716 (noting that "[p]erhaps the most self-evident of all characteristics making for legitimacy is textual *determinacy* . . . [t]he degree of determinacy of a rule directly affects the degree of its perceived legitimacy.") (emphasis added).

¹³¹ *Id.* at 716 ("To be legitimate, a rule must communicate what conduct is permitted and what conduct is out of bounds.")

Code), such indeterminacy has costs which are “paid for in the coin of legitimacy.”¹³²

Even when legally binding agreements are employed for arms control and disarmament initiatives (as opposed to soft, voluntary, non-binding arrangements), key indeterminate language in those agreements can undermine their ability to communicate credible commitments or provide security assurances.¹³³ Each state may possess strong incentives for surprise defection from an arms control agreement while at the same time risking great damage to its own national security if a defection by another state occurs. In such situations, a state may seek to maintain its own flexibility while attempting to ensure that other states are bound by arms limits.¹³⁴

While soft law may lay the foundation for the development of hard law regimes in other fields, in the context of arms control it may instead merely generate new sources of uncertainty and conflict. When indeterminate language is used to establish key rules in arms control agreements, no credible commitments are signaled by states. Concurrently, offensive defections may be hard to identify, little assurance is signaled to prevent states from engaging in defensive defections, and some states may become “defensive quasi-defectors” as they unilaterally interpret (in a self-serving manner) ambiguous key rules.¹³⁵

3.3. *Soft Law Design Choice: Weakening Obligation*

Credible commitments in arms control regimes can be communicated or signaled along several “hard” dimensions. Precision is only one of these dimensions, one that can be diminished (as discussed above) by indeterminate language. The realm of soft law

¹³² THOMAS M. FRANCK, *THE POWER OF LEGITIMACY AMONG NATIONS* 53 (1990).

¹³³ Jack M. Beard, *The Shortcomings of Indeterminacy in Arms Control Regimes: the Case of the Biological Weapons Convention*, 101 AM. J. INT’L L. 271, 275, 287–291, 294–295, 300–302 (2007).

¹³⁴ Abram Chayes & Dinah Shelton, *Multilateral Arms Control: Commentary, in COMMITMENT AND COMPLIANCE: THE ROLE OF NON-BINDING NORMS IN THE INTERNATIONAL LEGAL SYSTEM* 521 (Dinah Shelton ed., 2000) [hereinafter *COMMITMENT AND COMPLIANCE*].

¹³⁵ Beard, *supra* note 133, at 289 (noting that states with the most advanced technology can become “quasi-defectors” by exploiting the soft limits of indeterminate restrictions “through sophisticated auto-interpretation of a regime’s scientific and technical requirements . . .”).

also includes international arrangements in which the obligation itself is weakened by an instrument's reduction to a legally non-binding status. This dimension of soft law relates to the ability of a legitimate rule in an agreement to communicate not only content, but also authority.¹³⁶ Legally binding norms thus stimulate a sense of obligation, create a compliance pull, and derive legitimacy not only from their form but also from the process whereby these norms are created.¹³⁷

By entering into legally binding agreements, states can raise the credibility of their commitments by staking their "national reputation on adherence" and signaling their intentions "with special intensity and gravity."¹³⁸ Such commitments serve key functions in arms control regimes, making it possible for states to provide assurances to each other to restrain defensive defections. As an "*ex ante* sorting device," such hard legal commitments allow genuinely committed states to identify themselves as being willing to bear the greater costs imposed on violators of binding legal agreements, thus demonstrating a low propensity to defect.¹³⁹

One aspect of many types of legally binding agreements that has special significance for signaling a credible commitment and communicating authority is the formal ratification or other approval of such agreements by the legislative body of a state. Each country determines its own internal procedures for expressing its consent to be legally bound by international agreements, including what role (if any) is assigned to the national legislative body of that country. While the words "treaty" and "international agreement" are synonymous terms for legally binding agreements as a matter of international law,¹⁴⁰ in the United States the word "treaty" has a

¹³⁶ Franck, *supra* note 109, at 725 (noting that "the legitimacy of the rule—its ability to exert pull to compliance and to command voluntary obedience—is to be examined in the light of its ability to communicate. In this instance, however [relating to the symbolic validation, ritual and pedigree of the rule], what is to be communicated is not so much content as authority").

¹³⁷ Chayes & Shelton, *supra* note 134, at 526-27 (further arguing that "some evidence in arms control cases supports this view, suggesting that a norm in a treaty may induce more conforming state behavior than one that is purely non-binding").

¹³⁸ Charles Lipson, *Why Are Some International Agreements Informal?* 45 INT'L ORG. 495, 508, 511 (1991) (further noting that states use treaties to "underscore the durability and significance of the underlying promises").

¹³⁹ Abbott & Snidal, *supra* note 38, at 429.

¹⁴⁰ Vienna Convention on the Law of Treaties, *supra* note 49, art.2, entered into force Jan. 27, 1980, 1155 U.N.T.S. 331. Although the United States is not a party to the Vienna Convention, it recognizes its substantive provisions as generally repre-

narrower meaning which usually refers to only those legally binding international agreements which require the advice and consent of the U.S. Senate.¹⁴¹

The process of legislative approval in the United States can also be accomplished by “congressional-executive agreements,” i.e., agreements authorized in advance or subsequently approved by a majority vote of each house of Congress.¹⁴² The president may also enter into “sole executive agreements,” i.e., agreements made pursuant to the President’s constitutional authority without further congressional authorization.¹⁴³ The U.S. Supreme Court has consistently recognized the validity of properly concluded, legally binding “executive agreements.”¹⁴⁴ In practice, however, such findings may be aided or supported by the implied approval of Congress.¹⁴⁵

Whether a treaty or executive agreement is employed, both types of agreements result in binding obligations for the United States under international law, with concurrent credibility and as-

senting customary international law. *See, e.g., Fujitsu Ltd. v. Federal Exp. Corp.*, 247 F.3d 423 (2d Cir. 2001) (relying upon the Vienna Convention as an authoritative guide to the customary international law of treaties).

¹⁴¹ U.S. CONST. art. II, §2 (providing that the President “shall have Power, by and with the Advice and Consent of the Senate, to make Treaties, provided two-thirds of the Senators present concur”).

¹⁴² MICHAEL JOHN GARCIA, CONG. RESEARCH SERV., RL 33539, INTERNATIONAL LAW AGREEMENTS: THEIR EFFECT UPON U.S. LAW 4-5 (2015), available at <https://fas.org/sgp/crs/misc/RL32528.pdf> [<https://perma.cc/U92G-DGPC>], (noting also that “the great majority of international agreements that the United States enters into are not treaties but executive agreements . . .”).

¹⁴³ *Id.*

¹⁴⁴ *See, e.g., United States v. Belmont*, 301 U.S. 324, 330 (1937) (“an international compact . . . is not always a treaty which requires the participation of the Senate”); *see also, Am. Ins. Ass’n v. Garamendi*, 539 U.S. 396, 415 (2003) (“our cases have recognized that the President has authority to make ‘executive agreements’ with other countries, requiring no ratification by the Senate . . . this power having been exercised since the early years of the Republic”); *see also*, LOUIS HENKIN, FOREIGN AFFAIRS AND THE U.S. CONSTITUTION 175 (1996) (“Whatever their theoretical merits, it is now widely accepted that the Congressional-Executive agreement is available for wide use, even general use, and is a complete alternative to a treaty.”)

¹⁴⁵ *See, e.g., United States v. Pink*, 315 U.S. 203, 227-4228 (1942) (while upholding the validity of the executive agreement at issue (the “Litvinov Assignment”) and noting that it was “part and parcel” of the President’s new policy of recognizing the Soviet Union under his constitutionally enumerated powers to “receive ambassadors,” the Court also noted that it was part of his efforts to alleviate the effects of Soviet nationalization of U.S. assets and that “Congress tacitly recognized that policy” through the authorization of the appointment of a Commissioner to determine the claims of American nationals against the Soviet government.).

surance benefits for purposes of arms control regimes. Both approaches should be distinguished, however, from the proposed Code, which will not constitute a legally binding agreement. While non-binding arrangements are often closely associated only with the government in power at the time such arrangements are signed, legally binding agreements ensure that states remain bound by the principle of *pacta sunt servanda* so that even if new governments come to power, they “must perform the obligations entered into by a previous regime.”¹⁴⁶

In assessing the types of instruments that states may employ to make international commitments, it is widely acknowledged that “the treaty regime makes the government’s commitment more credible.”¹⁴⁷ Similarly, other types of legally binding agreements which involve legislative approval, such as Congressional-Executive Agreements found in the U.S. legal system, involve credible commitments similar to those signaled in the treaty-making process. In general, countries with more difficult treaty-making processes tend to employ those processes less frequently (and thus conclude fewer treaties), but the commitments in those treaties are more credible because “the cost of legislative involvement itself communicates information about the probabilities of compliance.”¹⁴⁸ Furthermore, in light of the power that legislatures have in democracies to frustrate the implementation of international agreements, the structures and processes of treaty-making (involving institutionalized legislative participation) have often been used as a signal to communicate and reinforce the credibility of commitments to foreign countries.¹⁴⁹

The executive leader of a state may also choose to utilize the legislative consent process in making an international commitment in order to send a more credible signal about that leader’s degree

¹⁴⁶ Tom Ginsburg, *Locking in Democracy: Constitutions, Commitment, and International Law*, 38 N.Y.U. J. INT’L L. & POL. 707, 736 (2006) (further noting that “the relevant unit of analysis in international law is the state, not the government”).

¹⁴⁷ *Id.* at 725.

¹⁴⁸ *Id.* at 743, 749 (further noting that “[i]f treaty commitments are too easy to enter into, they may not . . . facilitate credible signals on the international plane”).

¹⁴⁹ Jeffrey Frieden & Lisa L. Martin, *International Political Economy: Global and Domestic Interactions*, in POLITICAL SCIENCE: STATE OF THE DISCIPLINE 118, 124 (Ira Katznelson & Helen V. Milner eds., 2002) (noting that “agreements negotiated without legislative participation may lack credibility Evidence drawn from the United States and the EU demonstrates that the credibility of commitments rises with institutionalized legislative participation”).

of commitment to the treaty.¹⁵⁰ Because legislatures have the ability to prevent the implementation of agreements through the democratic process, other states may have doubts about the ability of the executive branch to actually fulfill a commitment without legislative approval or acquiescence.¹⁵¹ Just as indeterminacy undermines credible commitments with costs paid in legitimacy, the advantages of non-legal arrangements (easier and quicker negotiation, etc.) come with costs paid in “a reduction of the information and commitment benefits that flow from legislative participation”¹⁵²

For their part, the legislatures of liberal democracies may view some matters as so serious and involving such high stakes that they see legislative participation as necessary to convey the most formal, legally binding and credible commitment to foreign states (with the expectation of receiving a similar, formal, reciprocal commitment from that foreign state). Arms control matters clearly raise such concerns in the United States. For example, Congress enacted a law in 1961 which continues to provide that “[n]o action shall be taken pursuant to this chapter or any other Act that would obligate the United States to reduce or limit the Armed Forces or armaments of the United States in a militarily significant manner, except pursuant to the treaty-making power of the President set forth in Article II, Section 2, Clause 2 of the Constitution or unless authorized by the enactment of further affirmative legislation by

¹⁵⁰ Goldsmith & Posner, *supra* note 113, at 126–127 (further noting that “an executive wishing to foster successful international cooperation will, all things being equal, choose a treaty with a domestic ratification process that includes legislative participation Legislative participation sends a credible signal about the seriousness with which the president views the treaty”).

¹⁵¹ Ginsburg, *supra* note 146, at 743 (further noting that “[l]egislative involvement in treaty making communicates information to other states as to which type of agreements will be enforced by the state and which will not. They are thus commitment-enhancing”). Furthermore, states may be concerned about the validity of agreements which are concluded in the face of internal legislative opposition since an agreement may be invalid if the state’s consent is expressed in violation of a provision of its internal law (provided that the violation was manifest and concerned a rule of its internal law that was of fundamental importance relating to its competence to conclude the agreement.) Vienna Convention on the Law of Treaties, *supra* note 49, art. 46.

¹⁵² JACK L. GOLDSMITH & ERIC A. POSNER, *THE LIMITS OF INTERNATIONAL LAW* 94 (2005) (further noting that non-legal instruments are generally less costly, less public, and can be negotiated and concluded more quickly than legal agreements, but that these advantages “all come at the price of a reduction in the information and commitment benefits that flow from legislative participation . . .”).

the Congress of the United States.”¹⁵³

Regardless of the manner in which they are approved or ratified, legally binding international agreements possess various benefits of legalization that further contribute to signaling a credible commitment.¹⁵⁴ In spite of the perceived advantages of non-legally binding political instruments, they lack these benefits of legalization.

Unlike the political content of non-binding documents, legalization in international agreements can perform a “channeling function” by conveying the seriousness of a state’s intent to be bound, signaling at the outset a lower probability of future violations (than would be present without legalization).¹⁵⁵ As discussed above, legal rules are also perceived as having their own compliance pull, are less inclined to be diminished by auto-interpretation, and benefit from “a special set of expectations about how the agreement will be interpreted, understood, and enforced” by virtue of the existence of a formal law of treaties as codified in the Vienna Convention.¹⁵⁶

In the case of arms control agreements, “hard legalization,” i.e., the strengthening of such instruments across the dimensions of both precision and obligation, increases the credibility of commitments and serves a particularly key function when detection of non-compliance in some arms control regimes is hard to detect.¹⁵⁷

¹⁵³ 22 U.S.C. § 2573(b). This section was amended in 1994 by Public Law No. 103-236. (This statute now complicates the signing of the ICoC by the United States, as discussed below in Part IV.C. below.) The specific requirement in this statute for a treaty or an authorization “by the enactment of further affirmative legislation” appears to eliminate any actions, instruments or processes involving only the implied approval of Congress.

¹⁵⁴ Abbott & Snidal, *supra* note 38, at 428 (noting that, at the outset, “[l]egal obligations are widely perceived as having particular legitimacy”).

¹⁵⁵ GOLDSMITH & POSNER, *supra* note 152, at 98.

¹⁵⁶ GOLDSMITH & POSNER, *supra* note 113, at 129 (observing that an important difference between treaties and non-legal instruments is the role of the formal law of treaties in the Vienna Convention, and that by becoming a party to a treaty, a state “provokes a special set of expectations about how the agreement will be interpreted, understood, and enforced. A non-legal agreement does not create the same expectations, because technically the Vienna Convention does not govern such agreements”); Abbott & Snidal, *supra* note 38, at 429 (“Legalization entails a special form of discourse, requiring justification and persuasion in terms of applicable rules and pertinent facts, and emphasizing factors such as text, precedents, analogies, and practice.”)

¹⁵⁷ Abbott & Snidal, *supra* note 38, at 429 (further noting that even when legal arrangements that include centralized or decentralized monitoring provisions are absent, “legal commitments compensate in part for the reduced likelihood of de-

The Code possesses none of these hard law attributes or advantages. The vague provisions of the Code also do not provide a basis for successfully generating new, legally binding rules of customary international law that would be useful for an arms control regime (or any other regime).¹⁵⁸

Legalization plays an important and beneficial role in many areas of international cooperation and serves a particularly crucial function in the insecure environment of military competition and arms control. It is thus not surprising that even commentators who support the Code nonetheless admit that a hard law approach is the “first and best choice” for regulating the subject matter to be addressed by the Code.¹⁵⁹ Along similar lines, a debate continues among space law experts over the question of whether the Code is a distraction from more meaningful international efforts to conclude legally binding agreements to govern critical space activities.¹⁶⁰

Many proponents of the Code suggest that even if the negotiation and conclusion of a legally binding agreement would clearly be preferable to a soft law approach, in the interim a soft law instrument would positively contribute to the management of the outer space environment.¹⁶¹ Yet, as discussed above, soft law instruments such as the proposed Code are particularly ineffective mechanisms in the high-stakes arena of arms control and may instead burden states with a new set of uncertainties, thus risking greater insecurity and more tension in the volatile domain of space—while also making the development of new hard law rules for space activities less, not more, likely.¹⁶²

tection by increasing the costs of detected violations”).

¹⁵⁸ See, e.g., *N. Sea Cont'l Shelf Case*, *supra* note 121, at 44 (While a clear rule in an international document may serve as the basis for the formation of a binding obligation or norm under customary international law, the court found that “the very considerable, still unresolved controversies as to the exact meaning and scope” of the rule at issue raised doubts as to “the potentially norm-creating character of the rule.”)

¹⁵⁹ See, e.g., L.I. Juqian, *Mission Completed and Mission Ahead: ICoC to the Future*, in *AWAITING LAUNCH*, *supra* note 33, at 37, 43 (“[T]o cope with the challenge of space activities, a well-recognized and concluded treaty, the ‘hard law,’ is the best and first choice.”); see also, Arvind Gupta, *Forward to DECODING THE CODE*, *supra* note 30, at ix, x (arguing that since a legally binding agreement is difficult to achieve, a voluntary code of conduct is “the next best option”).

¹⁶⁰ See, e.g., Elatawy, *supra* note 84, at 49.

¹⁶¹ *Id.* at 46.

¹⁶² Instruments employing ambiguous language may significantly reduce the chance of states reaching a binding agreement since they may “relax the pressure

3.4. *Soft Law, Arms Control, and the Democracy Disadvantage*

Although proponents of soft law point to the benefits and advantages of soft law, these benefits and advantages may not fall evenly on all states undertaking arms control commitments in soft law instruments. Soft law instruments do not contain legally binding obligations, but they can and often do convey political commitments by states. As voluntary, political undertakings, such documents permit all participating states the same opportunity to follow or not follow established principles without violating any *legal* obligations. The practical and political impact, however, on liberal democracies that stray (or appear to stray) from such principles may be much different than the consequences for non-liberal or authoritarian regimes that engage in similar behavior.

The term “liberal democracy” can be defined in many ways, denoting among other things a state with a representative government, constitutional guarantees of civil and political rights, and a functioning judicial system dedicated to the rule of law.¹⁶³ Of particular importance for purposes here is the guarantee of civil and political rights that assures individuals, the media and private interest groups the opportunity to interact in “civil society” free of undue interference from State organs.¹⁶⁴

Even scholars from states with an authoritarian history and non-liberal traditions candidly observe that a commitment to a non-binding space code of conduct (that expresses nothing more than a joint declaration of intent) can carry more weight in democratic nations, “where military programs and financing are transparent, and where military agencies and the military-industrial complex are monitored by independent parliaments and civilian

on the parties to reach an agreement capable of really dealing with the problem involved, induce false public expectations, and, when these expectations are disappointed, lead to increased conflict and more difficulty in reaching real agreement.” BILDER, *supra* note 70, at 1703-1704.

¹⁶³ Anne-Marie Slaughter, *International Law in a World of Liberal States*, 6 EURO. J. INT'L L. 503, 511 (1995), available at <http://www.ejil.org/pdfs/6/1/1310.pdf> [<https://perma.cc/TT3P-8KCU>]; Michael W. Doyle, *Kant, Liberal Legacies, and Foreign Affairs*, 12 PHIL. & PUB. AF. 205, 206-09 (1986), available at <http://www.ir.rochelleterman.com/sites/default/files/doyle%201986.pdf> [<https://perma.cc/6JS4-RA4A>] (defining liberal democracies as having four major characteristics: (1) protection of private property; (2) a market economy; (3) equality under the law and respect for human rights; and (4) a representative government deriving its authority from the consent of individuals).

¹⁶⁴ Slaughter, *supra* note 163, at 511.

groups.”¹⁶⁵

Without similar societal conditions and monitoring by democratic institutions and independent media organizations, authoritarian leaders may thus feel free to breach any code they might sign, “as long as their violations remain hidden from the world community.”¹⁶⁶ Even in the case of legally binding agreements, any form of “societal verification” of disarmament and arms control treaties is possible “only in democracies tolerating transparency in military affairs, open discussion of security issues and unhampered activities of the mass media.”¹⁶⁷ Since soft law instruments like the Code do not benefit from verification regimes, enforcement mechanisms, legally binding dispute resolution procedures or even agreed standards of interpretation, they depend entirely on self-enforcement by subscribing states and whatever societal verification is present in those states.

The argument here is not that liberal and non-liberal states clearly display different levels of compliance with respect to their international legal obligations, although some scholars have suggested (somewhat controversially) that such distinctions can be made.¹⁶⁸ Rather, the argument is that non-binding international instruments may be scrutinized very differently in liberal democracies than they are in authoritarian states, particularly in states where a hospitable environment is provided for private interest groups to freely investigate, evaluate and criticize government mil-

¹⁶⁵ See, e.g., Alexi Arbatov & Vladimir Dvorkin, *Conclusion*, in *OUTER SPACE: WEAPONS, DIPLOMACY, AND SECURITY* 103, 108 (Alexei Arbatov & Vladimir Dvorkin eds., 2010). It should be noted, however, that in spite of any relative advantages Russia might gain over the United States in subscribing to the non-binding Code, the Russian government has refused to support the Code if it interferes with its higher-priority: securing the adoption of its proposed PPWT agreement (jointly proposed with China). See Draft Treaty *supra* note 85, and accompanying text.

¹⁶⁶ *Id.*

¹⁶⁷ Goldblat, *supra* note 91, at 133.

¹⁶⁸ See, e.g., Charles A. Kupchan & Clifford A. Kupchan, *Concerts, Collective Security, and the Future of Europe*, 16 *INT'L SEC.* 114, 115-16 (1991) (“[S]tates willing to submit to the rule of law and civil society domestically are more likely to submit to their analogues internationally.”); Slaughter, *supra* note 163, at 503, 511 (“[B]ehavioural distinctions between liberal democracies and other kinds of States, or more generally between liberal and non-liberal States, cannot be accommodated within the framework of classical international law”). But see Jose Alvarez, *Do Liberal States Behave Better? A Critique of Slaughter’s Liberal Theory*, 12 *EURO. J. INT’L L.* 183, 210 (2001), <http://ejil.org/pdfs/12/2/1516.pdf> [<https://perma.cc/94FW-74VD>] (“[W]e still have little reason to confident that the level of compliance across the range of subjects of covered by international obligations falls along ‘liberal/non-liberal’ lines”).

itary programs and assess whether they are consistent with the spirit of international commitments.¹⁶⁹

The preference of authoritarian states for non-binding instruments is not, however, an absolute one. For example, in some cases, authoritarian regimes may prefer a more advantageous legally binding agreement that clearly restricts their adversaries' more sophisticated technology while permitting the continuing deployment of their own less sophisticated but still effective weapon systems (as seen in the case of China and Russia's current support of the proposed PPWT over the Code.)¹⁷⁰

In other cases, military activities which are able to be observed by the entire international community (particularly in space) may result in unwanted attention and pressure from the international community, leading authoritarian states to eschew soft law arrangements, legally binding agreements or any other instruments that have the potential to restrict their military activities in space.¹⁷¹ However, in areas such as weapons research and development—where authoritarian societies can ensure that secrecy will be more effectively maintained and that criticism by independent actors in their societies will be far less likely—soft law arms control arrangements may present clearer advantages over rival democratic states.

While authoritarian states may be able to pursue space-related

¹⁶⁹ Laurence R. Helfer & Anne-Marie Slaughter, *Toward a Theory of Effective Supranational Adjudication*, 107 YALE L. J. 273, 369 (1997), http://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=2659&context=faculty_scholarship [<https://perma.cc/2EL8-SHLD>] (“[L]iberal democracies are likely to provide a more hospitable environment for courts and private actors whose interests align with the promotion of a supranational rule of law and who have the freedom to pursue those interests”).

¹⁷⁰ See Draft Treaty *supra* note 85, and accompanying text.

¹⁷¹ See, e.g., Samson, *infra* note 229, at 138 (noting that several major space powers, including the United States, have generally resisted any potential restraints on their space capabilities and that some countries “have not even developed official national space policies because they do not want limits placed on how they utilize space in the future”). Regarding current U.S. policy, however, the Obama Administration has indicated a willingness to consider arms control treaties or other arrangements that would limit the development of space weapons while promoting space operations that are “conducted in ways that emphasize openness and transparency.” See William Broad & Kenneth Chang, *Obama Reverses Bush's Space Policy*, N.Y. TIMES, June 28, 2010, A19. On the other hand, China has been described by space experts as being “allergic to transparency measures.” Michael Krepon, *Norm Setting for Outer Space*, SPACE NEWS, Sept. 8, 2014, <http://spacenews.com/41789norm-setting-for-outer-space/> [<https://perma.cc/7NCF-34TB>].

military activities, especially space weapons research and development (R&D) programs, with a relative lack of scrutiny under a non-binding code, liberal democracies may face serious obstacles in pursuing similar activities that relate to military programs involving potentially restricted offensive capabilities. For this reason, some commentators argue that an instrument like the Code, even though it is a non-binding instrument, could “exert de facto influence on U.S. space programs.”¹⁷²

R&D activities with ambiguous or multiple goals related to future military activities in space may be viewed with considerable suspicion by interested observers in legislatures and among members of a state’s civil society, particularly if those activities are seen as being inconsistent with the spirit or terms of international commitments. Arms control regimes that affect the future military capabilities of the most powerful states generally entail predictions by those states about future technological developments.¹⁷³ Acting on these predictions may be complicated in democracies where governments face public scrutiny in their selection and funding of technological alternatives related to future military missions.¹⁷⁴

Classified U.S. military space R&D programs, including current projects like the X-37B, continue to be the subject of media attention, analysis and speculation in the United States, but they do not face restrictions or broad public opposition based on their violation of U.S. laws or international obligations. Thus, within the framework of existing laws and international obligations, U.S. military planners and researchers have considerable flexibility to pursue diverse military projects associated with current and future security requirements and goals in space.

Predicting future military missions and associated technological requirements are perilous undertakings for governments in any area of national security, and none may be more challenging as

¹⁷² See, e.g., Jeff Kueter, *Rules of the Road in Space: Does a Code of Conduct Improve U.S. Security?*, GEORGE C. MARSHALL INST., 5 (Apr. 1, 2011), <http://marshall.org/wp-content/uploads/2013/09/939.pdf> [<https://perma.cc/97PM-DK3Y>] (arguing that it “would be difficult to foresee” the United States initiating a specific military program associated with conduct prohibited by the ICoC “and avoiding being criticized sharply for failing to live up to the spirit of the Code, even though those actions are allowed”).

¹⁷³ Colin S. Gray, *HOUSE OF CARDS: WHY ARMS CONTROL MUST FAIL* 43 (1992).

¹⁷⁴ *Id.* (“[A]rms Control, which entails a greater or lesser measure of technology prediction, typically has the effect for democracies of constraining the range of choice among possible solutions to problems that are left unaddressed or underaddressed”).

predicting future threats and programs in the vast and complex realm of outer space.¹⁷⁵ For this reason it is not surprising that some members of the U.S. Congress have sharply criticized the Code based on the “unknown consequences” that indefinite limitations under that document could have on “future military or intelligence programs.”¹⁷⁶

A soft law instrument with broad and vague objectives that restricts future military activities may thus serve to effectively limit some technological options available to participating democratic states (if those states make good faith efforts to fully comply and respect the spirit and letter of the commitments made in those instruments). Such concerns are reflected in the views of some critics who argue that the Code would disadvantage the United States by impeding advances in space technology because those advances are also likely to be labeled as “military” in nature and inconsistent with the goal of preventing an “arms race” in space.¹⁷⁷

Successful military operations in outer space remain highly dependent on advanced technology. For this reason, U.S. space policies have long emphasized that “to achieve national security objectives and compete successfully internationally, the U.S. must maintain technological leadership in space.”¹⁷⁸ Recent U.S. space policy statements reaffirm that the United States must continue to “pursue, adapt, and evolve the unique technologies, innovative exploitation techniques, and diverse applications that give the United States its strategic advantage in space.”¹⁷⁹

Since a state’s judgment of its military strength and security is inherently relativistic, international competition in national security matters is more like a race than an effort to achieve any specific

¹⁷⁵ Letter from Rep. Michael Turner, Chairman, Subcomm. on Strategic Forces, H. Armed Services Comm. et al., to President Barack Obama (Jan. 18, 2012) (on file with author) [hereinafter Letter from Rep. Michael Turner et al.] (“[N]o one can know today what programs the United States may need to undertake in outer space in the future for its military and intelligence national security requirements”).

¹⁷⁶ *Id.*

¹⁷⁷ See, e.g., John R. Bolton & John C. Yoo, Opinion, *Hands Off the Heavens*, N.Y. TIMES, Mar. 8, 2012, http://www.nytimes.com/2012/03/09/opinion/hands-off-the-heavens.html?_r=0 [<https://perma.cc/B49D-ZCYK>]; see also CODE, *supra* note 32, Preamble, ¶6 (noting “the importance of preventing an arms race in outer space”).

¹⁷⁸ COMM’N TO ASSESS U.S. NAT’L SEC. SPACE MGMT. AND ORG. REP. (Jan. 11, 2011), available at <http://www.dod.mil/pubs/spaceintro.pdf> [<https://perma.cc/A9BJ-4AWS>].

¹⁷⁹ *National Security Space Strategy*, *supra* note 12, at 7.

standard or goal.¹⁸⁰ Important technological innovations fundamentally change the nature of this race as they may allow a state “to get a competitive jump on its rivals.”¹⁸¹ Technological innovations with military implications by one state may thus inspire great insecurity in other states, particularly as they relate to activities in outer space.¹⁸²

For a liberal democracy involved in national security-related “competition” in space, efforts to achieve and maintain technological superiority may present special challenges. Broad R&D initiatives related to new space technologies with military applications are likely to be scrutinized by legislatures, the media and domestic interest groups and may raise suspicions that new offensive space capabilities are under development. Currently, such suspicions are not invoked in support of campaigns or significant protests against the U.S. government for violating any international commitments in space. If, however, the United States subscribes to the Code, this scrutiny would have a new focus.

The continuing revision of official drafts of the Code indicates that new U.S. space military capabilities, even if they are described as being “defensive” in nature, are likely to be heavily scrutinized and criticized if the United States adopts the Code. For example, although an earlier 2010 draft of the Code explicitly provided that “a comprehensive approach to safety and security in outer space should be guided by . . . due consideration for the legitimate defence interests of States,” that clause was omitted in the 2013 revised draft because it “was seen as particularly troublesome by many states given that it could be interpreted subjectively, favoring certain states to potentially weaponize their space capabilities.”¹⁸³

Even the basic reference to the inherent right of states to individual and collective self-defense in the current draft of the Code is problematic for some states since they view such a provision as a

¹⁸⁰ STEIN, *supra* note 96, at 115, 126 (further noting that a nation’s situation in this area is ultimately “addressed in relative terms, in an assessment of relative numbers, relative capabilities, and potential consequences”).

¹⁸¹ *Id.* at 115.

¹⁸² *Id.* (noting how the Soviets’ ability to launch Sputnik in 1957 illuminated numerous dangers, “symbolized an apparent American failure to keep up with the Russians scientifically,” and that in turn “suggested that the United States would fall behind militarily”).

¹⁸³ Pillai Rajagopalan, *EU’s New Space Code: A Significant Improvement*, SPACE NEWS, Nov. 11, 2013, <http://spacenews.com/38115eus-new-space-code-a-significant-improvement/> [<https://perma.cc/Z3JJ-XQHD>].

“back door” to “legitimising weaponisation of outer space.”¹⁸⁴ While a clause explicitly ensuring the fundamental right of self-defense is an essential requirement for the United States in any code of conduct for space activities, countries that view U.S. space programs with suspicion continue to fear that such a provision “opens the possibilities to increase the use of force, weapons and the militarisation of the outer space arena.”¹⁸⁵

The fears that states clearly harbor regarding the militarization and weaponization of space (and related suspicions regarding U.S. space programs) seem likely to generate controversy over the interpretation by the United States of key terms in any future version of the Code to which the United States subscribes. Similar interpretations and related new military space programs and research activities may be pursued without difficulty in authoritarian states, but would be subject to great scrutiny by private interest groups, the media and the Congress in the United States.

The potential public scrutiny of U.S. compliance with Code provisions has led some conservative critics in the United States to argue that, even though it is a non-binding instrument, the Code could effectively impede a variety of U.S. military space programs and a host of technology improvements that may have military or intelligence applications to space.¹⁸⁶ While some of these fears may be overstated, they nonetheless represent concerns that are present only in a liberal democracy or a state in which military programs and financing are relatively transparent, and where military agencies and defense industries are monitored by independent legislatures, media, and civil society groups.

¹⁸⁴ Elatawy, *supra* note 84, at 45, 49.

¹⁸⁵ Roberto Becerra & Romina Acevedo, *ICoC: Perspectives from Latin America and the Caribbean*, in *AWAITING LAUNCH*, *supra* note 33, at 169, 173 (noting further that “[d]eveloping countries, particularly those in Latin America and the Caribbean, have expressed that consensus will be difficult to reach if the text of ICoC refers to the concept of right to self-defence.”); Micah Zenko, *A Code of Conduct for Outer Space*, Council on Foreign Relations (2011), available at http://i.cfr.org/content/publications/attachments/Policy_Innovation_Memo10_Zenko.pdf [<https://perma.cc/F67J-UCKV>] (“Officials from Brazil and many other South American countries have said that the explicit reference to Article 51 undermines several important aspects of the code. They fear that Article 4.2 of the code will be used to justify weaponizing space and create an arms race in space under the veiled claims of defense”).

¹⁸⁶ Bolton & Yoo, *supra* note 177, (“Taken literally, the European Union code would interfere with our ability to develop antiballistic missile systems in space, test antisatellite weapons and gather intelligence.”); see also Letter from Thirty-Seven Senators to Hillary Clinton, U.S. Sec’y of State, *supra* note 83.

4. THE CODE AS A PROBLEMATIC SOFT LAW VARIANT

4.1. *The Problem of "Soft Law on Soft Law"*

Since the subject matter of the proposed Code clearly involves issues of common concern to all states, it might appear at first glance to be a document that could be easily embraced by the international community. States have not, however, acted with any sense of urgency in approving the proposed Code, which has been under consideration since 2008. This lack of enthusiasm may be attributed in part to the fact that the proposed Code is not the first soft law instrument to address the subject matter at issue. In fact, efforts to promote the Code raise serious questions about the effectiveness of duplicative soft law approaches to key problems in space and about the wisdom of imposing one type of soft law framework on top of another, different, existing type of soft law. This is particularly true as it relates to addressing the most pressing issue now confronting the international community in space: the problem of orbital space debris.

The proposed Code represents a particular type of soft law, one that is developed at a high level by the diplomats of states and international organizations. While such "top-down diplomatic approaches" can make significant contributions to collaborative activities in space, another approach to soft law focuses on the technical work of specialized governmental agencies and on "bottom-up best practices developed and demonstrated by commercial operators, academic institutions, and other technical experts."¹⁸⁷

Bottom-up, non-binding best practices and similar initiatives are typified by approaching space topics "from an applied technical perspective focusing on solving problems facing those working and operating in the space field."¹⁸⁸ In contrast to what is sometimes referred to as the "top-down diplomatic approach," this bottom-up approach allows specific technical issues to be ad-

¹⁸⁷ Schulte & Schaffer, *supra* note 44, at 9.

¹⁸⁸ Ben Baseley-Walker, *Current International Space Security Initiatives*, in *THE FAIR AND RESPONSIBLE USE OF SPACE: AN INTERNATIONAL PERSPECTIVE* 109 (Wolfgang Rathgeber, Kai-Uwe Schrogl & Ray A. Williamson eds., 2010); *see also* Schulte & Schaffer, *supra* note 44, at 14 (noting that bottom-up best practice guidelines "develop over time and grow out of successful experience and operator requirements").

dressed in detail by individuals drawn from the community of technical experts who are “best qualified to address the specifics” and who represent industry, non-governmental organizations, and the specialized governmental agencies of the interested parties.¹⁸⁹

The most successful and widely recognized example of the bottom-up, non-binding, best practices approach in space is the collaborative development of international space debris mitigation guidelines by the Inter-Agency Debris Coordination Committee (“IADC”).¹⁹⁰ The IADC consists of the representatives of the European Space Agency and the space agencies of the twelve most active space nations who exchange information on space debris research activities, cooperate on space debris research, and identify debris mitigation options.¹⁹¹ Drawing on NASA’s 1995 Orbital Debris Mitigation Standard Practices (the world’s first such guidelines), the IADC developed a set of technical guidelines for minimizing the creation of space debris, the IADC Debris Mitigation Guidelines (the “IADC Guidelines”), and submitted them to the U.N. Committee on the Peaceful Uses of Outer Space (“UN COPUOS”) in 2002.¹⁹² The IADC Guidelines served as the basis for

¹⁸⁹ Kueter, *supra* note 116, at 3 (describing the bottom-up approach as one in which “specific issues are addressed in detail by government and non-government technical experts drawn from interested parties . . .”). This approach is presented in contrast to discussion and activity stimulated by the “top-down imprimatur provided by high-ranking diplomatic officials.” See also Kueter, *supra* note 172, at 4.

¹⁹⁰ Kueter, *supra* note 172, at 5 (noting that “[d]ebris mitigation offers the best example of a bottom-up effort to address a space management issue.”); Baseley-Walker, *supra* note 188, at 115 (“The IADC’s development of the Space Debris Mitigation Guidelines over the course of more than a decade was a success.”); Jana Robinson, *Advancing an International Space Code of Conduct*, EU Non-Proliferation Consortium, July 13 2012, <http://www.nonproliferation.eu/thematics/index.php?codename=space> [<https://perma.cc/HSM7-5K7K>] (noting that the “practical approach” of the Inter-Agency Debris Mitigation Guidelines “represents an example of a successful bottom-up approach that has significantly contributed to preserving the outer space environment”).

¹⁹¹ *Inter-Agency Space Debris Coordination Committee*, <http://www.iadc-online.org/> [<https://perma.cc/R8M7-UKDH>]. In addition to NASA, the eleven other members of the IADC currently include the space agencies of: Canada, China, France, Germany, Japan, India, Italy, Korea, Russia, the United Kingdom, and Ukraine. *Id.*

¹⁹² Schulte & Schaffer, *supra* note 44, at 14-15; NASA, WINGS IN ORBIT: SCIENTIFIC AND ENGINEERING LEGACIES OF THE SPACE SHUTTLES 445 (2010), available at <https://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/20110011792.pdf> [<https://perma.cc/32GW-UMMS>]. The latest version of the guidelines was adopted in 2007. *Inter-Agency Debris Mitigation Guidelines*, Sept. 2007, IADC-02-01, available at <http://iadc-online.org/Documents/IADC-2002-01,%20IADC%20Space%20Debris%20Guidelines,%20Revision%201.pdf> [<https://perma.cc/8WEQ->

the UN COPUOS Space Debris Mitigation Guidelines (“UN COPUOS Guidelines”), which were adopted in 2007 and later endorsed by the U.N. General Assembly.¹⁹³

Although the IADC and subsequent UN COPUOS Guidelines are non-binding, they have had an important and legally significant impact on the national regulatory frameworks of many countries.¹⁹⁴ In the United States, these debris mitigation practices have been implemented for government-sponsored space missions through directives and instructions of NASA and DoD and for commercial space operations through the regulations and procedures of the Federal Communications Commission, and the Departments of Commerce and Transportation.¹⁹⁵ The cumulative effect of numerous countries and their national agencies implementing such regulations is an increasingly more harmonized approach in national legal frameworks regarding the critical issue of space debris generation. Although these practical, bottom-up, technical-based debris mitigation standards originated in a soft law instrument, there is nonetheless a reasonable chance that they will evolve into “a generally accepted state of art which no actual or potential actor in space can afford to ignore.”¹⁹⁶

While each country’s debris mitigation standards and regulations vary, their fundamental principles and objectives—as established in the IADC Guidelines—are the same: “(1) Preventing on-

2QF6]; see also Lotta Viikari, *Environmental Aspects of Space Activities*, in HANDBOOK OF SPACE LAW 717, 742 (Frans von der Dunk ed., 2015).

¹⁹³ Viikari, *supra* note 192, at 742; REP. OF THE COMM. ON THE PEACEFUL USES OF OUTER SPACE, U.N. Doc. A/62/20, ¶127, Supp. No. 20 (2007), available at http://www.unoosa.org/pdf/gadocs/A_62_20E.pdf [<https://perma.cc/76S4-DJKH>]; International Cooperation in the Peaceful Uses of Space, U.N. G.A. Res. 62/217 (2008), available at http://www.unoosa.org/pdf/gares/ARES_62_217E.pdf [<https://perma.cc/8R3J-ZZMW>].

¹⁹⁴ Viikari, *supra* note 192, at 743 (“The Space Debris Mitigation Guidelines of UN COPUOS are ‘the leading international arrangement to mitigate space debris.’”).

¹⁹⁵ Nicholas Johnson, *Orbital Debris: The Growing Threat to Space Operations*, <http://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/20100004498.pdf> [<https://perma.cc/Q65A-EP5W>]. Johnson is the Chief Scientist and Program Manager for NASA’s Orbital Debris Program Office.

¹⁹⁶ I. Marboe & F. Hafner, *Brief Overview over National Authorization Mechanisms in Implementation of the UN International Space Treaties*, in NATIONAL SPACE LEGISLATION IN EUROPE: ISSUES OF AUTHORISATION OF PRIVATE SPACE ACTIVITIES IN THE LIGHT OF DEVELOPMENTS IN EUROPEAN SPACE COOPERATION 29, 70–71 (Frans G. von der Dunk, ed., 2011).

orbit break-ups; (2) Removing spacecraft and orbital stages that have reached the end of their mission operations from the useful densely populated orbit regions, and (3) limiting the objects released during normal operations.”¹⁹⁷ These objectives are achieved through requirements and standards, which address: objects released intentionally and unintentionally during mission operations; fragments caused by on-orbit breakups (including on-orbit collisions, accidental break-ups, and intentional destruction of objects); and break-ups after mission termination.¹⁹⁸

The IADC Guidelines, and the UN COPUOS Guidelines that they inspired, have made a widely recognized, significant contribution to preserving the outer space environment and numerous states have codified debris mitigation standards into their national regulatory frameworks.¹⁹⁹ Citing the success of collaborative, technical, bottom-up debris mitigation efforts, critics of the proposed Code suggest that a top-down, diplomatically-driven multilateral code is “not needed to spur international dialogue on issues important to space operations.”²⁰⁰ In addition, unlike the defined technical objectives and agreed processes that have served as a solid foundation for IADC efforts, critics note that states subscribing to the Code are guided only by statements of principles with no accompanying indication of how those principles are to be recognized or practically implemented.²⁰¹

A diplomatically driven, top-down form of soft law being im-

¹⁹⁷ Inter-Agency Space Debris Mitigation Committee, *Support to the IADC Space Debris Mitigation Guidelines*, IADC-04-06, Rev 5.5 (May 2014), <http://www.iadc-online.org/Documents/IADC-04-06%20Support%20to%20IADC%20Guidelines%20rev5.5.pdf> [https://perma.cc/R8M7-UKDH]. The Guidelines comprehensively apply to operations from the launch phase, through mission phase, to the end-of-mission disposal phase (in which spacecraft or orbital stages are maneuvered into positions or situations so as to not to cause interference with active spacecraft or orbital stages). *Id.*

¹⁹⁸ *Id.*

¹⁹⁹ See *Compendium, Space Debris Mitigation Standards Adopted by States and International Organizations*, U.N. OFFICE FOR OUTER SPACE AFF. (6 June 2014), available at http://www.unoosa.org/pdf/limited/1/AC105_2014_CRP13E.pdf [https://perma.cc/TC74-ZVF9]

²⁰⁰ See, e.g., Kueter, *supra* note 172, at 5 (further posing the question that if the IADC Guidelines and similar efforts “are judged insufficient by Code proponents, what additional steps do they favor?”).

²⁰¹ *Id.* at 3–4 (arguing that without defined objectives, processes or a technical framework to rely on, states subscribing to the Code essentially “buy into a process whose outcomes remain undefined”).

posed on a technical, bottom-up version also raises the prospect of confusion and potential conflict between different frameworks attempting to regulate the same subject matter. With multiple frameworks seeking to establish the same type of operational space guidelines, some experts question whether any clarity that has or can be achieved in this area “will soon become over-complicated by a plethora of ‘how-to’ efforts”²⁰²

Differences in the nature of the entities responsible for top-down and bottom-up initiatives in space may further complicate the practical application of technical rules and standards in space. In contrast to technical guidelines developed first at the working level, top-down, diplomatically driven initiatives are generally sponsored by international organizations (such as various U.N. institutions) with high-level officials representing many states and operating by consensus—thus giving rise to fears voiced by some experts that there is a “substantial risk that politics may overtake practical substance” in this area.²⁰³

Conflicting interpretations of different guidelines that are applied to the same subject matter in space, yet are generated by contrasting soft law approaches, may have highly negative consequences. If the statements of principles in the proposed Code are nothing more than a reaffirmation of existing principles and an endorsement of the standards already developed by the IADC, it is hard to see much value in the great effort expended to date on their adoption. If, on the other hand, the proposed Code is intended to create new norms (as its proponents suggest), there is a risk of disputes arising from conflicting interpretations of these different soft law frameworks, resulting in an even less stable security environ-

²⁰² See, e.g., Baseley-Walker, *supra* note 188, at 115 (noting also that it is a matter of “some concern” how various sets of best practices established by different groups, including the IADC and a COPUOS Working Group of Experts, relate to other initiatives currently being discussed, particularly the ICoC.). Such concerns are reflected in a new clause in the latest draft of the Code, which attempts to affirm that subscribing states are acting “without prejudice to ongoing and future work in other appropriate international fora relevant to the peaceful exploration and use of outer space” CODE, *supra* note 32, Preamble, ¶15. Yet, it is unclear how such language will prevent conflicting approaches and interpretations of the Code and other instruments from arising or in what manner it will clearly define how the work of different groups will relate to each other. *Id.*

²⁰³ *Id.* at 115–116 (observing that while the IADC submits its proposals to the UN for approval and is thus “dual track, with one foot inside the UN and one outside,” some other groups, such as the COPUOS Working Group of Experts, are more engaged in the UN system from the outset, thus elevating the risk of politics overtaking practical substance.).

ment in space.²⁰⁴

If any soft law mechanism is to be employed in improving the security of space objects (particularly to address the problem of orbital debris), there is a strong argument to be made for bottom-up, technically-based guidelines as a means of developing at least some types of significant rules-based behavior.²⁰⁵ Such technical guidelines enhancing the security of space operations are historically not the results of top-down diplomatic efforts, but instead are drawn from the “existing operational experience of the principal actors, commercial operators and government agencies.”²⁰⁶ It is this community of actors, and not the “space diplomatic corps in Vienna,” that some commentators argue is the “proper source for the emergence of a normative, behavior-oriented regime.”²⁰⁷

Two other major goals of the proposed Code – improving space safety and space traffic management (“STM”) – are fundamentally linked to the problem of space debris and appear to also be best addressed, and to some extent are already being addressed, by bottom-up, technical collaboration instead of top-down, diplomatic initiatives.²⁰⁸ International air traffic controls may perhaps be cited as a precedent or analogy for this approach, since those controls emerged only after many years of working-level efforts involving private airlines and various governmental agencies responsible for aviation matters.²⁰⁹

²⁰⁴ Kueter, *supra* note 172, at 4 (“The ICoC is just a shell . . . conflicting interpretations will lead to confusion when disputes inevitably arise and could result in an even less transparent and less stable security environment in space”).

²⁰⁵ Gerard Brachet, *Peace in Space: Building on the Outer Space Treaty, in CELEBRATING THE SPACE AGE: 50 YEARS OF SPACE TECHNOLOGY, 40 YEARS OF THE OUTER SPACE TREATY. CONFERENCE REPORT 2-3 APR. 2007*, 67, 69-70 (United Nations 2007), available at <http://unidir.org/files/publications/pdfs/celebrating-the-space-age-50-years-of-space-technology-40-years-of-the-outer-space-treaty-conference-report-2-3-april-2007-331.pdf> [<https://perma.cc/YFK8-X327>] [hereinafter CELEBRATING THE SPACE AGE] (“[T]here is within COPUOS a shared feeling that bottom-up, technically-based guidelines and recommendations are powerful means to develop rules-based behaviour and keep outer space as safe as possible”).

²⁰⁶ *Id.*

²⁰⁷ *E.g.*, Kueter, *supra* note 116, at 3.

²⁰⁸ STM and space safety are subjects dominated by the problem of space debris. *See*

Marshall H. Kaplan, *An Integrated Approach to Orbital Debris Research and Management*, SPACE TRAFFIC MANAGEMENT CONFERENCE 6 (Nov. 6, 2014), available at <http://commons.erau.edu/cgi/viewcontent.cgi?article=1017&context=stm> [<https://perma.cc/GY97-2GYC>] (“It appears reasonable to assume that a first step in developing a space traffic management system is to address the issue of manag-

With respect to initial, inter-agency efforts to address space traffic management issues, the U.S. Strategic Command has in recent years entered into “Space Situational Awareness” (“SSA”) sharing agreements with forty-one commercial firms and five nations in order to develop routine operational space partnerships and improved international data sharing.²¹⁰ These SSA Agreements are described as laying the foundation for increased international cooperation, and are further aided by efforts to integrate partner nation sensors into the U.S. Space Surveillance Network.²¹¹ Expanded operational working relationships in this area continue to be encouraged by the U.S. Government, particularly by the U.S. Defense Department, in order to “improve the quantity and quality of the SSA information it obtains and expand provision of safety of flight services to U.S. Government agencies, other nations, and commercial firms.”²¹²

There are also private efforts involving operational data exchanges aimed at ensuring the “safety and integrity of satellite operations” through “controlled, reliable and efficient sharing of data.”²¹³ The Space Data Association, a private limited liability non-profit, has developed the Space Data Center (“SDC”), which is de-

ing the large number of passive derelict objects that could eventually jam the traffic lanes”).

²⁰⁹ Jeff Kueter, *supra* note 189, at 4 (noting how “[T]he emergence of the air traffic control regime supports the ‘bottom-up’ approach”).

²¹⁰ *Space Traffic Management: How to Prevent a Real Life “Gravity”*: Hearing Before the Subcomm. on Space of the H. Comm. on Sci., Space, and Tech., 105th Cong. 1 (statement of Lt. Gen. John “Jay” Raymond), available at <http://democrats.science.house.gov/sites/democrats.science.house.gov/files/documents/Raymond%20JFCC%20HSST%20Statement.pdf> [https://perma.cc/8PUR-96ZY] (noting that in 2014 “seven additional commercial/intergovernmental and five more national agreements are in work”).

²¹¹ *Id.* (noting further that the first such sensor – the Canadian Sapphire satellite – was recently incorporated and that work is underway to place a US Space surveillance telescope and radar in Australia.).

²¹² *National Security Space Strategy*, *supra* note 12, at 6 (further stating that “[s]hared awareness of spaceflight activity must improve in order to foster global spaceflight safety and help prevent mishaps, misperceptions, and mistrust. DoD will . . . seek to establish agreements with other nations and commercial firms to maintain and improve space object databases, pursue common international data standards and data integrity measures, and provide services and disseminate orbital tracking information, including predictions of space object conjunction, to enhance spaceflight safety for all parties”).

²¹³ *SDA Overview*, SPACE DATA ASSOC., http://www.space-data.org/sda/wp-content/uploads/downloads/2012/03/20120312_SDA_Users_Mtg_4_General_Session.pdf [https://perma.cc/Y9NS-7VTD] (last accessed Aug. 25, 2015).

scribed as a “secure, reliable completely automated analytical information system,” in order to address “conjunction analysis and [radio-frequency interference.]”²¹⁴ The SDC has been programmed so as to allow members of the Space Data Association to share “real-time critical operational data essential to the better protection of their respective satellite fleets and management of the overall earth orbit environment.”²¹⁵ This private initiative at reducing satellite collisions is recognized as “the way forward” alongside the IADC Debris Mitigation Guidelines.²¹⁶

Unlike fledgling public and private efforts to advance STM and space safety issues, debris mitigation measures have achieved a significant level of development and sophistication over many years under the auspices of the IADC. While the impact of the IADC Guidelines is significant, major issues related to orbital space debris remain to be addressed by the international community, including remediation problems and certain critical activities (notably the intentional destruction of objects in space as part of hit-to-kill ASAT weapons testing) that produce unusually large and dangerous amounts of debris.²¹⁷ Because these problems are linked to important and sensitive arms control and security issues in space, they lie beyond the competence of a set of voluntary, technical best practices or the competence of any other soft law instrument.²¹⁸ The intentional destruction of a space object by China (in its debris-generating ASAT test in January, 2007) clearly demonstrates this point, since the non-binding IADC Guidelines then in effect (which China had subscribed to) called upon states to avoid the “inten-

²¹⁴ Richard DalBellow & Michael Mendelson, *Private Risk Management in Orbital Operations: Inter-operator Liability and the Space Data Association* 8, available at www.intelsatgeneral.com/wp-content/uploads/files/DalBello%20Mendelson%20Final.pdf [<https://perma.cc/H6C8-VU5Z>] (last accessed Sept. 2, 2015).

²¹⁵ *Id.* at 8-9.

²¹⁶ Joseph N. Pelton, *SPACE DEBRIS AND OTHER THREATS FROM OUTER SPACE* 34 (2013).

²¹⁷ See David Wright, *Orbital Debris Produced by Kinetic-Energy Anti-Satellite Weapons*, in *CELEBRATING THE SPACE AGE*, *supra* note 205, at 155 (noting that “[s]pace debris can pose a long-term threat to the future use of outer space. One of the biggest sources of such debris would be the intentional destruction of satellites by anti-satellite (ASAT) weapons . . . since there is currently no effective way to remove large amounts of debris from orbit, controlling its production is essential for preserving the long-term use of space”).

²¹⁸ See Viikari, *supra* note 192, at 744 (noting how the IADC Guidelines, and the COPUOS Space Debris Mitigation Guidelines that they inspired, fail to address the problem of ASAT testing).

tional destruction of a space system (self-destruction, intentional collision, etc.) and other harmful activities that may significantly increase collision risks to other systems”²¹⁹

It is thus not surprising that although the IADC Guidelines (and the national laws and regulations implementing those guidelines) have contributed to improving the regulation of space debris, some commentators suggest that non-binding mechanisms like the Guidelines might not represent “the optimal solution in the long run,” especially if the goal is to effectively regulate all actors in space.²²⁰ Instead, they correctly argue that the time has come for states to instead agree on legally binding measures for regulating the prevention and management of space debris.²²¹

To the extent that soft law can play a valuable role in mitigating space debris, it appears to be best employed in bottom-up initiatives based on the successful model of the IADC Guidelines. A new type of soft law placed on top of these existing efforts cannot accomplish what a new legally binding agreement can achieve, particularly in the context of volatile space arms control and security issues. On the contrary, such a top-down, diplomatically-driven soft law approach risks causing confusion, conflict and greater insecurity in space while at the same time diminishing the existing legal and administrative framework governing activities in space.

4.2. *The Problem of “Fractional Soft Law”*

Even though the first draft of the proposed Code was introduced over seven years ago, widespread acceptance of the document by states has been understandably difficult to achieve; as of the most recent meeting of 109 states discussing the adoption of the Code (in September 2015), there is still no timetable for its finaliza-

²¹⁹ *Inter-Agency Space Debris Coordination Committee Space Debris Mitigation Guidelines*, Committee on the Peaceful Uses of Outer Space Scientific and Technical Subcommittee, A/AC.105/C.1/L.260, Nov. 29, 2002, § 5.2.3 available at http://www.unoosa.org/pdf/publications/st_space_49E.pdf [<https://perma.cc/PB63-8EA6>].

²²⁰ FABIO TRONCHETTI, *FUNDAMENTAL OF SPACE LAW AND POLICY* 82 (2013) (suggesting that such new, legally binding measures should apply “during all phases of space activity”, and noting that “no international binding rules regulating the prevention, disposal and removal of space debris exist”).

²²¹ *Id.*

tion.²²² The proposed Code continues to enjoy support from only a fraction of the international community. Although some significant space-faring countries, including members of the European Union, Japan, Canada, and Australia, have expressed varying degrees of support for the proposed Code, opposition continues to be expected from other major space powers, particularly Russia and China.²²³

Opposition to the proposed Code from the Russian and Chinese governments appears to be motivated primarily by the continuing concern of these major space powers that efforts to promote the Code could undermine the adoption of their preferred, jointly proposed and legally binding PPWT agreement.²²⁴ While the PPWT requires states “not to place any weapons in outer space,” it controversially excludes any restrictions on terrestrially-based ASAT weapons (which the United States describes as “the most pressing, existing threat to outer space systems”).²²⁵ For this and other reasons, including the lack of any verification regime, the United States has rejected the PPWT for failing to meet its standards for consideration of space arms control proposals, namely that they “must be equitable, effectively verifiable, and enhance the national security of the United States and its allies.”²²⁶ To this point in time, however, the benefits and relative advantages that Russia and China perceive in continuing to promote the legally binding PPWT (which the United States does not hesitate to describe as an inequitable and flawed agreement) appear to outweigh

²²² Timothy Farnsworth, *No End in Sight for Space Code*, ARMS CONTROL TODAY, 1 (2015), <http://www.armscontrol.org/print/7174> [<https://perma.cc/NE5Y-DDWY>] (“After eight years of drafting and negotiating the text of a code of conduct for activities in outer space, officials from several key countries indicated last month that they have no timetable for finalizing the agreement and opening it for signature”).

²²³ Lele, *supra* note 79, at 15.

²²⁴ *Id.* at 15-16; Ministry of Foreign Affairs of the Russian Federation, *supra* note 71, at 118 (expressing concern that the drafting of the ICoC “must not undermine our efforts aimed at elaborating the PPWT.”); Xavier Pasco, *ICoC: An Imperfect but Necessary Step?*, in Awaiting Launch, *supra* note 33, at 95, 98 (noting that Chinese and Russian representatives “have constantly defended the merits of PPWT” by “sometimes directly challenging the EU-supported approach”).

²²⁵ Draft PPWT, June 12, 2014, *supra* note 85, Art. II; *Note Verbale Dated 2 September 2014 from the Delegation of the United States of America to the Conference On Disarmament Addressed to the Acting Secretary-General of the Conference Transmitting the United States of America Analysis of the 2014 Russian-Chinese Draft PPWT* [hereinafter *Note Verbale*].

²²⁶ *Note Verbale*, *supra* note 226.

any interest in subscribing to the Code.

The Russian and Chinese governments are currently joined by other states (e.g., Brazil, India, and South Africa) in expressing a preference for some form of legally binding agreement over the Code.²²⁷ Numerous states, including significant space stakeholders such as India and Brazil, have also frequently expressed serious concerns about the Euro-centric process adopted by the European Union to advance the Code.²²⁸ Indeed, the failure of the European Union to include non-EU states (other than the United States) in the early stages of developing the Code has been strongly criticized and continues to cast doubts on prospects for the instrument's wider acceptance.²²⁹ (This concern recently led many states to request that future discussions of Code be moved to a truly multilateral forum, preferably the U.N. General Assembly.²³⁰) Several emerging space powers have also expressed concern about signing the proposed Code because of "possible constraints applied to nascent space programmes," a concern which forms part of a larger criticism that international opinion on activities in space is too much a by-product of the strategies of the main space powers.²³¹

²²⁷ Paul Meyer, *Star-Crossed: An International Code of Conduct for Outer Space?*, CANADA INTERNATIONAL COUNCIL, Aug. 31, 2015, <http://opencanada.org/features/star-crossed-an-international-code-of-conduct-for-outer-space/> [https://perma.cc/7X5A-WCJ5].

²²⁸ Jana Robinson, *Europe's Space Diplomacy Initiative: The International Code of Conduct*, in *DECODING THE CODE* (2012), *supra* note 30, at 27, 28.

²²⁹ Victoria Samson, *ICoC: NEED OF THE HOUR*, in *DECODING THE CODE*, *supra* note 30, at 136-137 ("[T]he fact of the matter is that other major space-faring nations should have been brought into the process earlier than they were."); Peter Garretson, *WHAT'S IN A CODE?: PUTTING SPACE DEVELOPMENT FIRST*, in *AWAITING LAUNCH*, *supra* note 33, at 27, 28 (noting that space-capable Asian states are unlikely to feel that they have materially shaped the Code to reflect their interests because they have a problem with "the manner in which it [the Code] came to them").

²³⁰ *Chair's Summary, Multilateral Negotiations on an International Code of Conduct for Outer Space Activities*, New York, 27-31 July 2015, ¶ 17, <https://papersmart.unmeetings.org/media2/7650931/chairs-summary-corrected-1-.pdf> [https://perma.cc/C8E6-VSZH] ("It was the assessment of the Chair that the most supported way forward would be the pursuit of negotiations within the framework of the United Nations through a mandate of the General Assembly").

²³¹ Xavier Pasco, *ICoC: AN IMPERFECT BUT NECESSARY STEP?*, in *AWAITING LAUNCH*, *supra* note 33, at 95, 98; see also Akshan de Alwis, *New Tensions on How to Regulate Outer Space*, *DIPLOMATIC COURIER*, Aug. 10, 2015, <http://www.diplomaticcourier.com/new-tensions-on-how-to-regulate-outer-space/> [https://perma.cc/MJH9-ATVJ] (noting that many developing nations "expressed a suspicion that the ICoC could be used to bottleneck their expansion into space" and that "[m]any nations in Africa and Latin America are yet to fully de-

Although the United States had originally expressed tentative support for the proposed code, on January 17, 2012, the U.S. State Department issued a statement announcing that “[t]he European Union’s draft Code of Conduct is a *good foundation* for the development of a non-legally binding International Code of Conduct.”²³² While emphasizing that the United States would join with the European Union and other states to develop a code of conduct for outer space activities, Secretary of State Clinton declared that “we will not enter into a code of conduct that in any way constrains our national security-related activities in space or our ability to protect the United States and our allies.”²³³ To this point, however, the United States has not offered any proposed alternative to the Code.²³⁴

Notwithstanding the U.S. government’s reluctance to sign the current draft of the proposed Code, senior U.S. officials argue that a code of conduct for space could enhance US national security by “serving as one of the most visible and political ways in which nations commit to acting responsibly in space” and that “[n]ations willfully acting contrary to a code could expect to be isolated as rogue actors.”²³⁵ Yet these same officials also concede that it is only by “establishing *widely accepted guidelines* for responsible behavior in space” that the national security of the United States and its allies will be enhanced.²³⁶

A similar official position found in a U.S. Department of Defense press release notes that “[a] *widely-subscribed* Code can en-

velop their space capabilities, so some perceive any regulatory instrument by the West as an effort to limit their future capabilities”).

²³² *An International Code of Conduct for Outer Space Activities: Strengthening Long-Term Sustainability, Stability, Safety, and Security in Space*, U.S. DEPT. OF STATE, Jan. 17, 2012, <http://www.state.gov/documents/organization/181208.pdf> [<https://perma.cc/7TDT-ZFST>] (emphasis added).

²³³ Press Statement, Sec’y of State Clinton, *supra* note 18.

²³⁴ Senior U.S. officials instead continue to express conceptual support for the Code and similar proposals. For example, in August 2015 at a multilateral conference at the U.N., the U.S. Assistant Secretary of State for Arms Control, Verification, and Compliance said “[w]e must look closely at the proposed Code and appreciate the effort that the European Union and others in the international community have put into crafting a document that provide us with an opportunity to reach agreement in the near term on a series of voluntary, non-legally binding, pragmatic, and timely measures that are essential to the long-term sustainability, safety, stability, and security of the outer space environment.” de Alwis, *supra* note 231.

²³⁵ Schulte, *supra* note 44, at 14.

²³⁶ *Id.* at 11, 14 (emphasis added).

courage responsible space behavior and single out those who act otherwise, while reducing risk of misunderstanding and misconduct.”²³⁷ Another DoD fact sheet notes that it is a “broadly-accepted set of international norms of responsible behavior” that can be expected to have “a positive effect on deterrence” and “help the international community identify and isolate aggressors.”²³⁸

Thus, according to U.S. Department of Defense policy, only a “widely-subscribed” and “broadly-accepted” code (that presumably includes major space-faring powers like Russia and China) could hope to identify and isolate states that act contrary to its rules (notwithstanding the need for such rules to also be part of a clear, legally binding and credible commitment by the states involved, as discussed above). Although the Russian and Chinese governments could view the non-binding Code as providing some relative compliance advantages over the United States (as discussed in Part 3.4., *supra*), they are unlikely to subscribe to the Code if doing so in any way interferes with their continuing efforts to promote their higher priority—and to them, more advantageous—legally binding PPWT agreement.²³⁹

Russia and China thus continue to lie beyond the reach of the Code, defeating efforts by proponents to make the Code a widely subscribed and broadly accepted instrument and greatly diminishing its purported “norm-setting” capabilities. Whatever benefits soft law instruments are asserted to have in addressing security matters, participation by only a fraction of states in the Code, particularly a fraction that fails to include all the major space-faring countries, will not provide a sound basis for establishing new norms or help to identify or isolate aggressors and other non-participating, misbehaving states. Furthermore, states facing perceived security threats in space are not likely to be assured by a fractional version of the Code in which their potential adversaries do not even participate.

In some areas of international cooperation, such as the protection of human rights, persuading only a fraction of states to initially sign multilateral instruments may be viewed as a positive, pro-

²³⁷ *Fact Sheet: International Code of Conduct for Outer Space Activities*, U.S. DEPT. OF DEFENSE, (emphasis added) http://archive.defense.gov/home/features/2011/0111_nsss/docs/FINAL_DoD_Fact_Sheet_International_Code-2012_1-17-12.pdf [<https://perma.cc/PEU3-UE5J>].

²³⁸ *Id.*

²³⁹ See Draft Treaty *supra* note 85, and Lele *supra* note 79 and accompanying text.

gressive step of achievement (particularly since human rights agreements are not focused on reciprocal obligations).²⁴⁰ As an arms control initiative for space, however, the Code's failure to include Russia and China and other major space stakeholders is a fundamental flaw. The absence of powerful, potential adversaries makes multilateral conventions addressing arms control or disarmament issues highly problematic for those states contemplating joining such regimes and making potentially dangerous, non-reciprocal commitments.²⁴¹ To the extent that soft law arrangements such as the proposed Code seek to promote arms control measures in the face of severe security dilemmas and the threat of arms races, the non-participation of powerful adversaries clearly undermines such efforts.

If the proposed Code is adopted by states in its current state of limited acceptance, a fractional soft law product will emerge which will present its own particular disadvantages and problems (beyond those associated with soft law arrangements generally). Not only would a fractionalized Code fail to identify aggressors and isolate rogue states, it could instead lead to *de facto* competing legal regimes in space, as subscribing states respect their own "rules of the road" while other non-participating states—especially major, non-participating space powers—seek to advance their own interests through different or less restrictive approaches. Attempts to later successfully persuade non-participating states to accede to the Code will be challenging, if not impossible, and could risk further weakening rather than improving the Code.²⁴²

Still another casualty of a fractionalized Code would be any attempt to establish new and meaningful transparency and confidence building measures through the sharing of information. In-

²⁴⁰ Dinah Shelton, LAW, NON-LAW AND THE PROBLEM OF 'SOFT LAW', IN COMMITMENT AND COMPLIANCE, *supra* note 134, at 1, 3 ("Human rights law has developed over the past fifty years into a broad code of behavior for states and state agents, not only in their relations with other states, but primarily as non-reciprocal, unilateral commitments towards all those within the jurisdiction of the state").

²⁴¹ Richard L. Williamson Jr., *Hard Law, Soft Law, and Non-Law in Multilateral Arms Control: Some Compliance Hypotheses*, 4 CHI. J. INT'L L. 59, 61-62 (2003) ("Other matters can affect a treaty's effectiveness, such as the degree to which essential nations become parties to the treaty. If key parties remain outside the treaty, it increases pressure on the other states to withdraw or cheat").

²⁴² See Kueter, *supra* note 172, at 7-8 (noting that if non-participating states are dissatisfied with the ICoC, they "can be expected to demand concessions, both formal and informal . . . to secure their signature on the Code").

formation serves a central function in the Code since subscribing states resolve to share information on a wide variety of topics, notably regarding “their space strategies and policies, including those which are security-related, in all aspects which could affect the safety, security, and sustainability of current and planned activities in outer space” as well as “their major outer space research and space applications programmes.”²⁴³

Space law generally seeks to maintain a focus on the free and open sharing of information for the benefit and safety of all nations.²⁴⁴ The Code, however, contains restrictive information-sharing provisions requiring subscribing states to share information only with *other subscribing states*.²⁴⁵ This restrictive information sharing arrangement, which was not part of the first draft of the Code in 2008, appears to reflect the insecurity of would-be subscribing states as they now contemplate the likelihood of fractional state participation in the Code and the possibility of sharing potentially sensitive information with numerous non-subscribing states on a non-reciprocal basis. This restrictive information arrangement defeats the larger purposes of the Code (“enhancing the safety, security, and sustainability of outer space activities”)²⁴⁶ since even information relating to potentially dangerous activities which threaten all space-faring states are not required under the Code to be distributed to the international community as a whole.

The absence of key state actors in the information sharing process significantly undermines the ability of the Code to bring genuine transparency to space activities. Furthermore, the voluntary nature of the process does nothing to ensure the accuracy or completeness of the information that is submitted, especially since subscribing states are unlikely to voluntarily submit many types of sensitive space data related to important scientific and technological capabilities.²⁴⁷ The obvious failings of this mechanism have

²⁴³ Code, *supra* note 32, § 6.1.

²⁴⁴ See *Space Law*, U.N. OFFICE FOR OUTER SPACE AFFAIRS, <http://www.unoosa.org/oosa/en/informationfor/faqs.html> [<https://perma.cc/FW63-C2BB>] (noting that in order to achieve its primary goals, space law addresses a variety of diverse matters, including “sharing of information about potential dangers in outer space”).

²⁴⁵ Code, *supra* note 32, § 6.1 (“The Subscribing States resolve to share, on an annual basis, where available and appropriate, information with the other Subscribing States”).

²⁴⁶ *Id.* at Preamble, ¶10.

²⁴⁷ Lele, *supra* note 79, at 20 (“No state would like to share technical information which could be used to understand, and probe more deeply into, its scien-

prompted harsh criticism, with one commentator noting that “[t]he basic purpose behind the CoC gets defeated if insufficient, inaccurate and irregular information is provided by states.”²⁴⁸ The incomplete and voluntary information disclosure process also fundamentally undercuts the hoped-for ability of the proposed Code to help identify “bad sheep.”²⁴⁹

There are few, if any, examples of non-binding, multilateral codes being used to address significant arms control issues. This lack of state practice is itself a compelling indication of the unsuitability of soft law instruments in this area. However, in defending the President’s authority to sign non-binding documents related to security matters, the U.S. State Department has cited the 2002 Hague Code of Conduct against Ballistic Missile Proliferation (the “HCoC”)²⁵⁰ as a good example of a “similarly non-binding code.”²⁵¹ Upon closer inspection, however, not only is the HCoC unlike the Code in important respects (and unlike other instruments addressing problems posed by weapons of mass destruction), it is better cited as an example of the failure of non-binding instruments to successfully address security matters—particularly when those instruments exclude numerous significant state actors.²⁵²

tific and technological capabilities”).

²⁴⁸ *Id.* at 19.

²⁴⁹ *Id.* at 20 (“Undertaking confidence-building measures through a series of voluntary disclosures is likely to have limited utility and would not help identify the ‘bad sheep’ . . .”).

²⁵⁰ The Hague Code of Conduct against Ballistic Missile Proliferation (the HCoC), U.N. Doc. A/57/724, 3.c., (Nov. 25, 2002), available at http://www.hcoc.at/?tab=what_is_hcoc&page=text_of_the_hcoc [<https://perma.cc/6TM3-2DPJ>] [hereinafter HCoC].

²⁵¹ *Hearing on Nat’l Def. Authorization Act for Fiscal Year 2013 and Oversight of Previously Authorized Programs Before the Subcomm. on Strategic Forces of the H. Comm. on Armed Services*, 112th Cong. 87 (2013), app., letter from Hon. David S. Adams, Assistant Secretary for Legislative Affairs, U.S. Department of State, to Chairman Turner (March 8, 2012), available at https://fas.org/irp/congress/2012_hr/space.pdf [<https://perma.cc/D7N6-HTNY>] [hereinafter HEARING ON 2013 NDAA].

²⁵² See Camille Grand, *The Hague Code of Conduct: 10 Years of Combating Ballistic Proliferation*, 74 NON-PROLIFERATION MONTHLY 1 (Special Issue 2013), available at <http://www.cesim.fr/documents/onp/eng/74.pdf> [<https://perma.cc/5LUS-2QVN>] (noting that “[the HCoC’s] limits are well publicized; as a non-legally binding instrument, it forbids neither the possession, production, nor the development of ballistic missiles and does not impose any onerous constraints on possessor States. As such, it is not comparable with the major international conventions that deal with weapons of mass destruction.”); *A Brief Overview of Norms Development in Outer Space*, *supra* note 60, at 6 (noting that the utility of the HCoC

At the outset, it should be noted that the HCoC constitutes a much more limited attempt than the Code to address international security matters and does not present states like the United States with any new arms control-type constraints.²⁵³ As noted by one congressman during hearings related to the funding of national security space activities, the HCoC imposed no restraints on U.S. military operations while, in contrast, an Executive Summary of the Joint Staff Operations assessment of the proposed Code stated that “[i]f the United States were to make a good-faith effort at implementing the requirements of the draft code, there could be operation[al] impacts on U.S. military space operations in several areas.”²⁵⁴

Furthermore, unlike the broad scope and objectives of the Code, the HCoC attempts only to make modest inroads in restricting the proliferation of one specific weapon system (ballistic missiles). In addition, the very limited commitments that states undertake when they subscribe to the HCoC are phrased in even weaker and more ambiguous terms than those contained in the Code.²⁵⁵

Notwithstanding the limited scope and other shortcomings of the HCoC, its ability to have any meaningful impact has been further diminished by its fractional subscription. It is particularly

framework has been criticized “because of . . . the absence of several key states from the list of signatories”).

²⁵³ The different nature and purposes of the HCoC and the Code were highlighted during hearings in the U.S. Congress. In sharply criticizing Administration efforts to compare the HCoC with the Code, the Chairman of the Strategic Forces Subcommittee of the U.S. House Armed Services Committee asked “[W]hat was it that the U.S. was doing in 2002 that it no longer did as a result of subscription to The Hague Code? Were we proliferating ballistic missiles before the code?” HEARING ON 2013 NDAA, *supra* note 251, at 18.

²⁵⁴ Congressman Michael Turner, HEARING ON 2013 NDAA, *supra* note 251, at 18 (In further contrasting the impact of the HCoC with the Code, Congressman Turner asked, “What impact on U.S. military and intelligence operations was there from The Hague Code of Conduct? What binding regulations were issued on the Department of Defense and IC as a result of U.S. subscription to The Hague Code . . . ?”).

²⁵⁵ For example, *cf.* HCoC, *supra* note 250, at 3.c (which requires the subscribing states “to exercise *maximum possible restraint* in the development, testing and deployment of Ballistic Missiles . . . including, *where possible* to reduce national holdings of such missiles . . .”) (emphasis added) to Code, *supra* note 32, at 1.2, 4.2, 4.3 (ICoC provisions which address “outer space activities involving all space objects launched into Earth orbit or beyond” and requires subscribing states to “*refrain from any action* which brings about, directly or indirectly, damage, or destruction, of space objects unless such action is justified” and “to limit, to the greatest extent practicable, any activities in the conduct of the routine space operations”) (emphasis added).

handicapped since “the majority of Asian countries that contribute to the challenge of missile proliferation remain outside the mechanism.”²⁵⁶ The lack of many significant actors in the HCoC regime, or in any other fractional soft law regime that attempts to address security matters, fundamentally undermines any credibility it may have as an international security tool.²⁵⁷ Thus, in the absence of some mechanism to ensure the inclusion of the key actors in the Code, it has been argued that the Code “is likely to see a repeat of the experience with the HCoC in which most Asian countries of proliferation concern have chosen to remain outside the mechanism.”²⁵⁸

The HCoC is thus an instructive example regarding soft law instruments, but not a positive one. As noted by one commentator, its limitations as a fractionalized soft law instrument are self-evident, as it appears to have done very little to limit the spread of ballistic missile technology.²⁵⁹ With many key states refusing to subscribe to the HCoC and many signatory states failing to implement it, the HCoC underlines the limited value of so-called “norms” in non-legally binding documents in which “there is no

²⁵⁶ Grand, *supra* note 252, at 1 (noting how “[in] Asia and the Middle East, adherence to the Code is more the exception than the rule. Brazil, China, India, Iran, Israel, North Korea, Pakistan, and Syria are all yet to sign . . .”).

²⁵⁷ Lucia Marta, *The Hague Code of Conduct against Ballistic Missile Proliferation: “Lessons Learned” for the European Union Draft Code of Conduct for Outer Space Activities*, EUR. SPACE POL’Y INST. (2010), <http://www.nonproliferation.eu/web/documents/nonproliferationpapers/integrating-without-quite-breaking-the-rules-the-e-44.pdf> [<https://perma.cc/RW6G-89DU>] (noting that the lack of participation by significant countries in the HCoC, including North Korea, Iran, China, emerging actors in the space sector like Brazil, Mexico and Saudi Arabia, and most other middle eastern and south Asian countries “undermines the credibility of the Code not only in terms of its universalization and the potential to create an international customary law, but also in terms of its credibility as an international security tool”).

²⁵⁸ Timothy Farnsworth, *U.S. Backs Efforts to Draft Space Code*, ARMS CONTROL ASS’N, https://www.armscontrol.org/act/2012_03/US_Back_Efforts_to_Draft_Space_Code [<https://perma.cc/RZY7-96JZ>]; Micah Zenko, *A Code of Conduct for Outer Space*, COUNCIL ON FOREIGN RELATIONS (2011), http://i.cfr.org/content/publications/attachments/Policy_Innovation_Memo10_Zenko.pdf [<https://perma.cc/F67J-UCKV>] (“Along current trend lines, the EU code will likely suffer the same fate as the Hague Code of Conduct against Ballistic Missile Proliferation, which was endorsed by 132 states, but not Brazil, China, or India, much less Iran and North Korea).

²⁵⁹ Kueter, *supra* note 116, at 4 (noting that the HCoC has “done little to slow the spread of ballistic missile technology. The utility of the ballistic missile as a warfighting instrument is such that nations either have elected to stay outside the regime or ignore it”).

obligation created and thus there is potentially a higher chance for weak adherence.”²⁶⁰

In light of the issues discussed above, it is not surprising that many advocates of the Code stress the crucial need for all interested nations, particularly *all major space stakeholders*, to sign the Code in order for it to have any chance of success.²⁶¹ Without the participation of these states, the proposed Code is doomed to become part of an unusual class of particularly ineffective soft law instruments. Furthermore, in the case of arms control measures, potential dangers lurk for states like the United States that choose to subscribe to such fractionalized soft law instruments and attempt to comply in good faith with their restrictions.

4.3. “Non-Binding Norm-Creating” and the Democracy Deficit

One suggested advantage of soft law instruments over hard law is that they are easier for states to negotiate and conclude while retaining the ability to later serve as the possible basis for legally binding obligations. This advantage flows from the capacity of soft law instruments to be both “non-binding” and “norm-creating.” Yet soft law’s non-binding and norm-creating qualities may pose a dilemma for the legislatures of democratic states, as illustrated by the unfolding controversy in the United States over the possible adoption of the proposed Code. At first glance it may seem surprising that a state’s legislative body would be concerned about a legally non-binding instrument, but such a document takes

²⁶⁰ *A Brief Overview of Norms Development in Outer Space*, *supra* note 60, at 7 (noting how the failure of signatory states to implement the HCoC “underlines the extent of the reach of such types of norms as, in that they are non-legally binding documents, there is no obligation created and thus there is potentially a higher chance for weak adherence.”); Lele, *supra* note 79, at 5, 6 (“In reality, mechanisms like HCoC or the proposed space CoC have extremely limited relevance and actually serve no purpose beyond offering a ‘feel good’ notion. It would be naïve to think that states actually care for such non-binding mechanisms”).

²⁶¹ See, e.g., Stefan A. Kaiser, *Why States Should Sign the Code of Conduct for Outer Space Activities?*, in *DECODING THE CODE*, *supra* note 30, at 88, 90 (“there is one crucial prerequisite for the success of the code of conduct. It needs to reflect a broad consensus among the space-faring nations. All major space-faring nations need to sign”); Elatawy, *supra* note 84, at 50 (noting in order for a code such as the ICoC to be beneficial, it must, among other things, be “negotiated widely among all states in a proper multilateral venue”); Samson, *supra* note 229, at 139 (arguing that, at a minimum, “What is needed is the agreement of key space stakeholders that the guidelines set down in a code of conduct are for the best”).

on new significance when a state's executive unilaterally (without involving the legislature) proclaims that the adopted instrument will be promoted by that state as a basis for creating new binding rules of customary international law.

4.4. *The Code Controversy Within the U.S. Government*

In contrast to the space policies of previous administrations, the Obama Administration has expressed a desire to promote new types of collaborative activities in space and a willingness to consider proposals for space-related arms control agreements (albeit with significant caveats.)²⁶² It has also indicated a willingness to consider a variety of new soft law mechanisms for outer space, including those which contribute to the development of what it described as "norms of behavior for responsible space operations."²⁶³

Consistent with its new space policies, the U.S. government expressed tentative support in 2009 for the proposed Code, subject to its formulation as a legally non-binding instrument.²⁶⁴ Stressing the power of soft, non-binding instruments to build norms, a fact sheet released by DoD in 2011 noted that "[t]he United States is working closely with the European Union on a draft international Code of Conduct, which could serve as an important first set of norms of responsible behavior."²⁶⁵

On February 2, 2011, thirty-seven members of the U.S. Senate expressed significant concerns about the proposed Code in a letter

²⁶² Broad & Chang, *supra* note 171, at A19 (noting that the new National Security Space Strategy states that Washington will "consider proposals and concepts for arms control measures if they are equitable, effectively verifiable and enhance the national security of the United States and its allies").

²⁶³ *National Security Space Strategy*, *supra* note 12, at 5; National Space Law Policy of the United States, at 2, 7 (June 28, 2010), available at https://www.whitehouse.gov/sites/default/files/national_space_policy_6-28-10.pdf [<https://perma.cc/TA72-4BZM>] (stating that "[t]he United States will support development of data standards, best practices, transparency and confidence-building measures, and norms of behavior for responsible space operations").

²⁶⁴ Bill Gertz, *New Space-Arms Control Initiative Draws Concern*, WASH. TIMES, Jan. 16, 2012, available at <http://www.washingtontimes.com/news/2012/jan/16/new-space-arms-control-initiative-draws-concern/> [<https://perma.cc/VZ8R-GV8U>] (quoting a Dec. 9, 2009, State Department cable expressing concern about the use of legally binding language in the draft EU Code).

²⁶⁵ *Fact Sheet: International Code of Conduct for Outer Space Activities*, *supra* note 237.

to Secretary of State Hillary Clinton.²⁶⁶ On January 17, 2012, the State Department announced that the United States would not sign the EU's current draft of a proposed Code, but that it would nonetheless "join with the European Union and other space-faring countries to develop an international code of conduct for outer space activities."²⁶⁷

While several ranking members of U.S. Congress indicated in a letter to President Obama of January 18, 2012, that they applauded the decision to not sign the current version of the draft Code because it presented "significant policy and operational concerns," they also expressed grave reservations about the proposed use by the Executive Branch of a non-binding soft law mechanism to promote possible restrictions on US military and intelligence capabilities and space.²⁶⁸ Of particular importance for purposes of this article, the congressmen questioned the appropriateness of the Code's non-binding, norm-creating approach as applied to arms control in space. They argued that the Code, if adopted, could be used "as a starting point" for the negotiation of an international arms control agreement, and further suggested that it could "establish the foundation for a future arms control regime that binds the United States without the approval of Congress."²⁶⁹ Such a legally binding impact on the United States could presumably take place through the codification of Code provisions in future international conventions (although this would require congressional involvement in order to be internally binding on the United States), and/or their transformation through state practice into rules of customary international law which would be binding on all states.

Furthermore, the perceived advantage of non-binding instruments to harmonize international standards by generating uniform domestic legal requirements was directly criticized by the congressmen, who noted that although the Administration argued that the draft Code would be "non-binding and voluntary, the implementing regulations surely would be binding."²⁷⁰

²⁶⁶ Letter from Senators to Hillary Clinton, U.S. Sec'y of State (Feb. 2, 2011), *supra* note 83.

²⁶⁷ Farnsworth, *supra* note 258.

²⁶⁸ Letter from Rep. Michael Turner et al, *supra* note 175.

²⁶⁹ *Id.* (arguing that this approach "would bypass the established constitutional processes by which the United States becomes bound by international law").

²⁷⁰ *Id.* (further arguing that "[b]ecoming a signatory on this type of a Code

Writing in response to the congressman on behalf of the President, a senior State Department official noted that the Code “would not be a treaty or international agreement that would impose legal obligations on the United States” and that it was not “a legally-binding arms control agreement.”²⁷¹ While this is an accurate statement, it is also a narrow one that does not speak to the possibility that the Code could generate legally binding domestic regulations, serve as the basis for future legally binding agreements, or give rise to new legally binding norms of customary international law.

In response to concerns expressed by some members of Congress that the proposed Code represented “arms control by the back door,” administration officials did not dispute that the substance of the draft Code related to arms control issues, only that it was not “arms control” because the Code itself is “not legally binding.”²⁷² Nevertheless, some members of Congress argued that this process could result in legally binding obligations and related policies being approved without their input and outside the normal process for considering and approving congressional-executive agreements or ratifying treaties.²⁷³

While the Obama Administration has correctly emphasized that the proposed Code is not a proposed international agreement and is thus not subject to the procedural and substantive rules governing the consideration, authorization and conclusion of international agreements, the potentially legally binding impact of the Code through its contribution to the formation of customary international law is another matter.²⁷⁴ In that regard, the executive’s unilateral adoption of such a soft law instrument would leave the legislative branch in a poor position to affect what it

of Conduct without Congressional approval appears intended to implement international policy with which the Congress has not expressed concurrence or approval. It appears that the Department of Defense and possibly the Intelligence Community would have to issue departmental implementation regulations that would impact both our national and economic security”).

²⁷¹ HEARING ON 2013 NDAA, *supra* note 251 (Letter from David S. Adams, Assistant Secretary of State for Legislative Affairs, to Michael Turner, Chairman).

²⁷² Schulte & Schaffer, *supra* note 44, at 14 (“One concern [that we have heard about the code] is this arms control by the back door? This is not arms control. I mean, this is a voluntary code. It is not legally binding”).

²⁷³ Letter from Rep. Michael Turner et al., *supra* note 175.

²⁷⁴ See 1 U.S. Code § 112b (the “Case-Zablocki Act”), which imposes regulations only on those documents that are legally binding international agreements (including the requirement that the document be transmitted to Congress).

views as an objectionable step by the United States in leading the way in the potential development of new rules of customary international law that could restrict U.S. military capabilities and operations in space.

As noted above, arms control measures (defined by the U.S. Congress as any action that “would obligate the United States to reduce or limit the Armed Forces or armaments of the United States in a militarily significant manner”) are the subject of a special statutory regime (requiring such obligations to be made pursuant to the treaty-making power or with affirmative legislation by the Congress).²⁷⁵ Questions regarding the applicability of this statutory regime have escalated the conflict between the U.S. legislative and executive branches over the proposed Code.²⁷⁶ The result was the enactment in 2014 of an unprecedented piece of legislation entitled “Limitation on International Agreements Concerning Outer Space Activities,” found in Section 913 of the National Defense Authorization Act for Fiscal Year 2013 (“Section 913”).²⁷⁷

Not surprisingly, Section 913 reaffirmed the requirement that any obligation to reduce or limit the armed forces or armaments of the United States in outer space in a militarily significant manner be accomplished only pursuant to a treaty or specific statutory authorization.²⁷⁸ However, Section 913 also broke new ground by es-

²⁷⁵ 22 U.S. Code § 2573(b).

²⁷⁶ See Jack M. Beard, *Soft Law as an Impediment to the Regulation of Space Activities with Military Implications: A View from the United States Congress*, PROCEEDINGS OF THE INTERNATIONAL INSTITUTE OF SPACE 2014, 699–717 (2015).

²⁷⁷ National Defense Authorization Act for Fiscal Year 2013, Pub. L. No. 112-239, 126 Stat. 1632 (2013), codified at 51 U.S.C. § 30701, Note (2013), available at <https://www.gpo.gov/fdsys/pkg/BILLS-112hr4310enr/pdf/BILLS-112hr4310enr.pdf> [<https://perma.cc/B2S2-C4XV>] [hereinafter the 2013 NDAA]. The President had previously threatened to veto the Act based on the unacceptable way Section 913 and other provisions in the bill impeded the President’s ability to execute new defense strategies and allocate resources and the manner in which Section 913 specifically could “encroach on the Executive’s exclusive authority to conduct foreign relations and could severely hamper U.S. ability to conduct bilateral space cooperation activities with key allies”). See Statement of Administration Policy, OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, H.R. 4310 NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2013, available at https://www.whitehouse.gov/sites/default/files/omb/legislative/sap/112/saphr4310r_20120515.pdf [<https://perma.cc/CZ9J-79DC>].

²⁷⁸ The first certification provision in Section 913 requires the Secretary of Defense, the Chairman of the Joint Chiefs of Staff, and the Director of National Intelligence to jointly submit to the appropriate congressional committees a certification that such agreement “will be equitable, enhance national security, and have no militarily significant impact on the ability of the United States to conduct military or intelligence activities.” 2013 NDAA, *supra* note 277, § 913(a)(2).

establishing several onerous certification requirements, one of which may cast a long shadow over America's ability to continue to play a leading role in helping to form rules of customary international law for outer space. In particular, Section 913(a)(1) contains unusual criteria, which appear to prevent soft law instruments like the Code from serving as a basis for both future international agreements and rules of customary international law.

Among other things, Section 913(a)(1) requires the President to submit to appropriate congressional committees a certification that "such agreement has no legally-binding effect *or basis* for limiting the activities of the United States in outer space."²⁷⁹ In reluctantly signing the National Defense Authorization Act for Fiscal Year 2013, President Obama issued a statement indicating that certain provisions in this Act, including Section 913, "could interfere with my constitutional authority to conduct the foreign relations of the United States."²⁸⁰

The legal significance, if any, of presidential signing statements in this context is hotly contested.²⁸¹ A full examination, however, of the constitutional status of presidential signing statements, related separation of powers issues, and the capacity of the President to lawfully engage in a wide spectrum of executive acts related to international affairs is beyond the scope of this paper. However, other issues arising from the divided and conflicted participation of the American democracy (or any other democracy) in the formation of customary international law deserve special attention here, particularly as they relate to the adoption of a soft law instrument on the basis of its non-binding yet norm-creating character.

²⁷⁹ *Id.*, at § 913(a)(1) (emphasis added).

²⁸⁰ Statement by the President on H.R. 4310, THE WHITE HOUSE, OFFICE OF THE PRESS SEC'Y, Jan. 3, 2013, <http://www.whitehouse.gov/the-press-office/2013/01/03/statement-president-hr-4310> [<https://perma.cc/YG5F-QHPJ>] (further declaring that "[i]n these instances, my Administration will interpret and implement these provisions in a manner that does not interfere with my constitutional authority to conduct diplomacy").

²⁸¹ For a discussion of related issues, see Beard, *supra* note 276, at 10581-10582.

4.5. *The Code, "Norm-Creating," and the Formation of Customary International Law*

Repeated statements by U.S. officials that the proposed Code entails no legal obligations because it is not a legally binding agreement, unfortunately, speak to only one dimension of the possible legal significance of this soft law instrument. As Senator Ben Nelson remarked to administration officials in Congressional hearings on the proposed Code, "[i]t may not be a treaty, but as you well know, it will establish international norms amongst nations."²⁸² In fact, lines separating the promotion of new "norms" found in legally non-binding instruments (that the United States expects other countries to follow), and efforts to establish new binding rules of customary international law are easily blurred, especially as U.S. Executive Branch officials continue to promote the Code as an instrument for setting "norms for which responsible space-faring nations would conform their conduct."²⁸³

For purposes of legal analysis, non-binding "norms" or guidelines found in soft law instruments must be distinguished from legally binding rules of customary international law (which are sometimes also referred to as "norms"). Customary international law consists of a set of legal obligations arising from the practice of states and is recognized as a "leading, well-respected source of international law, fully on par with treaties."²⁸⁴ In the words of the American Law Institute's Restatement of the Foreign Relations Law of the United States, customary international law emanates "from a general and consistent practice of states followed by them from a sense of legal obligation."²⁸⁵

²⁸² *Hearing to Receive Testimony on Military Space Programs in Review of the Defense Authorization Request for Fiscal Year 2013 and the Future Years Defense Program, Before the Subcomm. on Strat. Forces of the Comm. on Armed Services, 112th Cong. 3* (March 21, 2012) available at http://www.smdc.army.mil/CG/2012/FY13SA_SCSFSpaceTranscript.pdf [<https://perma.cc/J2EZ-QY3L>].

²⁸³ See, e.g., *id.* at 19, (testimony of Madelyn Creedon, Assistant Sec'y of Defense for Global Strat. Aff.) (stating that "[t]here are a number of responsible behaviors that we hope this code will identify and then set what would be the norms for which responsible space-faring nations would conform their conduct").

²⁸⁴ David A. Koplow, *ASAT-atisfaction: Customary International Law and the Regulation of Anti-Satellite Weapons*, 30 MICH. J. INT'L L. 1187, 1222 (2009) [hereinafter Koplow].

²⁸⁵ Restatement (Third) of Foreign Relations Law of the United States § 102.2 (1987).

Customary international law has played a key role in space. For example, many of the most important and fundamental principles of space law found in the Outer Space Treaty, have been described as essentially codifying existing customary international law.²⁸⁶ Significantly, the customary international law version of these rules has achieved wider, "more comprehensive geographic coverage" than the treaty versions.²⁸⁷ As discussed in Part 2 above, customary international law rules governing space activities have often emerged from soft law instruments, including, in some circumstances, from U.N. General Assembly Resolutions.²⁸⁸

A non-binding principle contained in a soft law instrument may thus become a binding "rule of customary international law," but only if it enjoys sufficient conforming general practice by states and is ultimately accepted as law.²⁸⁹ It should be noted that even if a document like the proposed Code is initially declared by all subscribing states to be a *legally non-binding* instrument, this may not prevent it from later contributing to the formation of a rule of cus-

²⁸⁶ Vladlen S. Vereshchetin & Gennady M. Danilenko, *Custom as a Source of International Law of Outer Space*, 13 J. SPACE L. 22, 25 (1985) (noting further that "the analysis of the practice of states before the conclusion of the 1967 Outer Space Treaty shows that historically custom was the first source of the international law of outer space"); NANDASIRI JASENTULIYANA, *SPACE LAW: DEVELOPMENT AND SCOPE* 46 (1992) (describing the Outer Space Treaty as "the Magna Carta of international space law" and noting that it was "built on several principles already enunciated in [the] 1963 . . . Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space").

²⁸⁷ Koplów, *supra* note 284, at 1234. The International Court of Justice maintains that customary international law rules underlying an international "convention continue to exist *erga omnes* for both parties and non-parties." See MARK EUGEN VILLIGER, *CUSTOMARY INTERNATIONAL LAW AND TREATIES: A MANUAL ON THE THEORY AND PRACTICE OF THE INTERRELATION OF SOURCES* 151-52 (1997) (noting also two alternative views when pre-existing customary international law rules are codified in a convention: that these rules may be "crowd[ed] out" by the convention, or that they may simply parallel the convention, "at least as regards non-parties").

²⁸⁸ Frans von der Dunk, *Contradiction in Terminis or Realpolitik? A Qualified Plea for a Role of 'Soft Law' in the Context of Space Activities*, in *SOFT LAW IN SPACE*, *supra* note 27, at 31, 32 (noting that the origins of space law can be traced to "a handful of internal administrative and/or non-legally binding United Nations General Assembly resolutions between 1958 and 1963 . . ."); see *supra* notes 57-61 and accompanying text (discussing the limited circumstances in which U.N. General Assembly Resolutions form the basis for binding rules of customary international law).

²⁸⁹ *Continental Shelf case (Libyan Arab Jamahiriya v. Malta)*, Judgment, ICJ Reports 1985, pp. 29-30, § 27 (3 June 1985) available at <http://www.icj-cij.org/docket/index.php?p1=3&p2=3&case=68&code=lm&p3=4> [<https://perma.cc/J9FH-9LSD>].

tomary international law. For example, during the consideration of the Universal Declaration of Human Rights at a 1948 session of the U.N. General Assembly, the U.S. Representative, Mrs. Franklin D. Roosevelt, emphasized that, "It is not a treaty; it is not an international agreement. It is not and does not purport to be a statement of law or of legal obligation."²⁹⁰ However, after years of conforming state practice and reaffirmation of the norms in the Declaration by the United States, it was not difficult for a U.S. federal court to later declare that one of those norms, the prohibition of torture, had become a binding rule on all countries under customary international law.²⁹¹

The process by which customary international law ("CIL") is formed is not, however, without its critics. For example, Professor J. Patrick Kelly has strongly criticized the lack of democratic legitimacy in this process on several levels, arguing that "the majority of nations and peoples of the world rarely participate in the creation of customary rules that limit their policy choices and sovereignty," and that this "democracy deficit" broadly infects the process of CIL norm formation.²⁹²

It is true that traditional international law doctrine has generally treated states and governments as opaque "black boxes," and has thus "ignore[d] their internal observance of democracy as a relevant factor affecting their capacity to have a voice in international lawmaking."²⁹³ Yet, even while most international law scholars may be unwilling to fully embrace Professor Kelly's argument that the methodologies of all the major normative theories of customary international law eviscerate the democratic legitimacy of CIL norms, there is still value in recognizing and encouraging

²⁹⁰ 19 DEP'T. OF STATE BULL. 751 (1948).

²⁹¹ *Filártiga v. Peña-Irala*, 630 F.2d 876, 882 (2d Cir. 1980) ("This prohibition [the right to be free from torture] has become part of customary international law, as evidenced and defined by the Universal Declaration of Human Rights, General Assembly Resolution 217 (III)(A) (Dec. 10, 1948) which states, in the plainest of terms, "no one shall be subjected to torture").

²⁹² J. Patrick Kelly, *The Twilight of Customary International Law*, 40 VA. J. INT'L L. 449, 518-520 (2000) (arguing that the democratic legitimacy of customary international law (CIL) norms is undermined by both the limited number of states that participate in formulating those norms and by the lack of any participation by people represented by states: "much of CIL is determined by the academic and judicial elites or by the practices of a minority of states without the participation or direct assent of the majority of states compromising the legitimacy of CIL norms").

²⁹³ BRIAN D. LEPARD, *CUSTOMARY INTERNATIONAL LAW: A NEW THEORY WITH PRACTICAL APPLICATIONS* 156 (2010).

state participation in this process that also reflects the participation of the people that these states are presumed to represent.²⁹⁴

International legal obligations which are made pursuant to treaties or other international agreements often involve legislative institutions and thus, at least in democratic states, involve the participation of the elected representatives of the people in those states. But in the case of other activities involving a state's foreign affairs, including the signing of legally non-binding documents that may give rise to customary international law, in some countries the executive alone may speak for the government and the people.²⁹⁵

The ongoing controversy in the United States over the possible signature by the President of the proposed Code implicates issues larger than domestic partisan politics and interesting separation of power issues within the U.S. constitutional framework. Among other things, the Code controversy highlights the limitations of non-binding soft law instruments to generate legally binding "norms" of conduct under customary international law. The un-

²⁹⁴ *Id.* (Professor Lepard argues that "[f]inally, in the case of all norms . . . greater weight should be given to the views of states that have some mechanism for taking the views of their citizens and other inhabitants into account, such as democratic elections or consultations." He suggests that such an approach enhances the "democratic legitimacy" of customary international law" without "reject[ing] the legitimacy of the customary lawmaking process as being irretrievably 'undemocratic' by nature").

²⁹⁵ The extent of an executive's sole powers in foreign affairs varies with each state's constitutional framework. In the United States, the standard citation for the president's power in the area of foreign affairs is found in *United States v. Curtiss-Wright Export Corp.*, 299 U.S. 304, 319 (1936) (noting that "[i]n this vast external realm [of foreign affairs], with its important, complicated, delicate and manifold problems, the President alone has the power to speak or listen as a representative of the nation As Marshall said in his great argument of March 7, 1800, in the House of Representatives, 'The President is the sole organ of the nation in its external relations, and its sole representative with foreign nations'"). Although a detailed discussion of this subject is beyond the scope of this article, such absolute statements about presidential authority risk over-simplifying the complex separation of powers regime in the U.S. legal system. Even the *Curtiss-Wright* case is less than it appears, since it did not involve the question of independent powers of the president, but "whether Congress had delegated [its] legislative power too broadly when it authorized the president to declare an arms embargo in South America." Louis Fisher, *The Law: Presidential Inherent Power: The "Sole Organ" Doctrine*, PRESIDENTIAL STUD. Q. 139, 143 (March 2007). Rather than providing a clear roadmap for Congress and the President to share powers in the conduct of foreign affairs, one presidential scholar has suggested that the Constitution is instead "an invitation to struggle for the privilege of directing American foreign policy." EDWIN S. CORWIN, *THE PRESIDENT - OFFICE AND POWERS 1787-1957* at 171 (1957).

sual case of the executive and legislative branches of a major democracy explicitly taking opposite views of the suitability of a soft law instrument (in this case the proposed Code) to serve as a basis for future international legal obligations, threatens not only the future of U.S. participation in the Code, but also the key role that the United States has long played in the development of the international legal regime governing activities in space.²⁹⁶ If the United States were to approve the Code under these circumstances, it would also give the Code an even more uncertain status, further undermining its relevance as well as the underlying commitments of subscribing states.

The significance for international space law of the dispute over the Code between the U.S. Executive and Legislative branches may be far-reaching. Although partisan disputes related to international activities are hardly unusual in the United States, the formal and unprecedented action taken by the United States Congress to restrict the potential legal impact of the Code potentially sets the stage for a broad and unfortunate attack on the use of soft law instruments as a basis for forming future binding obligations in space under customary international law.

The controversy over the Code in the United States highlights the limitations of soft instruments when they are used in place of legally binding international agreements and the process whereby which such legally binding agreements are adopted. It also illustrates the dangers that such non-binding documents may pose if they are used by the executives of states to build norms in such a way that they further contribute to a “democracy deficit” in customary international law. This is especially true for democratic states in the area of arms control where important issues of national security are likely to call for processes which reflect a national consensus, and thus involve the participation of the people through their elected representatives in order to obtain broad public support for the agreement.²⁹⁷ Soft law instruments may thus be

²⁹⁶ See, e.g., EDYTHE E. WEEKS, OUTER SPACE DEVELOPMENT, INTERNATIONAL RELATIONS AND SPACE LAW: A METHOD FOR ELUCIDATING SEEDS at 51–54, 128 (2012) (noting how in the early epoch of the space era, the United States played a key role in building the foundation of the legal framework for space—especially the Kennedy Administration’s contributions in facilitating the progress of international space law and the Johnson Administration’s subsequent role in “keeping up the momentum of international space lawmaking”—and how the United States has continued to play “a key role in influencing outer space development regime change” through subsequent epochs of outer space development).

²⁹⁷ Richard B. Bilder, *Formal Treaties and Tacit Agreements: An Exchange*, 41

a problematic substitute for legally binding agreements on several levels, particularly when used to address arms control and security issues.

5. GUIDING PRINCIPLES FOR SOLUTIONS IN SPACE

Many challenges now confront states in their use of outer space, but none pose a greater existential threat than the possibility that debris generated by human activities may render space unsafe and unusable for hundreds or even thousands of years. However, the insecure strategic environment in space means many proposed cooperative measures will not be able to effectively address this threat and may instead only increase dangerous risks.

The international community generally addresses the dissimilar problems of space debris and arms control as separate areas of concern. This is because the legal and political framework which underlies efforts to manage the critical problem of orbital space debris (which also includes the domestic laws and administrative regulations of many states), and the framework which addresses arms control issues in space, relate to fundamentally different subject areas. Nonetheless, the two subject areas may implicate parallel concerns or involve interdependent problems, as evidenced by the Code's emphasis on preventing an arms race and regulating military activities in outer space while reducing the creation of orbital space debris.²⁹⁸

Within the context of these different subject areas and frame-

BULL. OF THE ATOMIC SCIENTISTS 51, 52 (April 1985). In view of the importance of obtaining broad congressional and public support for arms control arrangements, is it wise for the president to bypass normal constitutional agreement-making procedures? Formal arms control treaties provide the requisite degree of predictability and assurance Moreover . . . [i]f the agreement is approved, it is likely to reflect a national consensus and have considerable support and stability. In the United States, where arms control agreements have "almost invariably been negotiated as treaties," it has further been argued that the gravity of the issues addressed in such agreements "creates a presumption in favor of treaties with full Senate participation in the process of ratification. See ROBERT E. WILLIAMS, JR. & PAUL R. VIOTTI, ARMS CONTROL: HISTORY, THEORY, AND POLICY - VOLUME 1: FOUNDATIONS OF ARMS CONTROL at 45 (2012).

²⁹⁸ Some authors further suggest that lethal debris represents its own "haphazard and inadvertent weaponization of space." See Michael Krepon, *Space Code of Conduct Mugged in New York*, Aug. 4, 2015, <http://www.armscontrolwonk.com/archive/404712/space-code-of-conduct-mugged-in-new-york/> [<https://perma.cc/7DWW-KG7X>].

works, the search continues for the “next step” towards meaningful international collaboration in addressing the most acute problems confronting the international community in space, particularly the problem of orbital space debris. The proposed Code, a flawed soft law variant, is not a promising step. Soft law is not, however, the only available solution or basis for that next step. Instead, certain alternative principles emerged from the preceding analysis, which may help guide states in their next attempt to design other more effective instruments, regimes, and approaches to advance the long-term and sustainable use of outer space.

5.1. Pursue Hard Law Solutions with the Leading Spacefaring States

Meaningful initiatives to regulate weapons and military activities in space cannot succeed when their design is divorced from the reality of the security dilemmas and perceived threats that states face. While soft law instruments may give the appearance of progress, they notoriously achieve little on their own in addressing critical security issues in space.²⁹⁹ In this realm, soft law instruments unfortunately do not assist states in conveying credible commitments to each other, providing the necessary assurances to prevent defensive defections from international regimes, or creating clear obligations to serve as the basis for effective monitoring and verification regimes designed to prevent offensive defections. Instead, soft law’s shortcomings—linked to design choices that weaken commitments along the dimensions of precision or obligation or both—inspire uncertainty, reduce confidence, and dramatically diminish the effectiveness of any arms control measure in space.

The benefits of hard law regimes and the disadvantages of soft law instruments in the field of arms control are compelling. This helps explain why, despite continuing and sometimes intense diplomatic efforts to promote the adoption of the Code, a wide variety of experts from numerous space-faring countries agree that a hard law approach is ultimately needed to deal with the greatest chal-

²⁹⁹ Aoki, *supra* note 57, at 85 (“[O]nce critical national security interest is concerned, then, only legally-binding rules can govern the activities of individual nation.”); Elatawy, *supra* note 84, at 50 (“There is a necessity for further measures to govern outer space activities through the negotiation and conclusion of further legally binding instrument(s)”).

lenges confronting the international community in space.³⁰⁰ It is also consistent with demands by several major space stakeholders (including Brazil, India, South Africa, Russia and China) that work on the Code “should not prejudice or delay the elaboration of legally-binding instruments to strengthen the existing legal framework for outer space.”³⁰¹

As previously noted, however, proponents of soft law approaches often view legally binding instruments for space activities as too difficult to achieve, pointing to the lack of any new hard law agreements since 1979. Unfortunately, the attention, time and government resources dedicated to promoting the Code appear to be diverting efforts from more meaningful and important work on any new legally binding agreements.³⁰² The lengthy, continuing state-sponsored deliberations related to the Code present only an illusion of progress, one that diminishes interest in more effective legally binding agreements, reduces pressure on states to pursue such alternatives, creates the false impression of agreement when there is none, and induces false expectations that may later lead to disagreement and increased conflict when those expectations are disappointed.³⁰³

Commentators who are not optimistic about hard law approaches in space have suggested that the different and apparently irreconcilable interests of different states are responsible for preventing the conclusion of any new legally binding multilateral agreement in the field of space law since 1979.³⁰⁴ In this environment, bottom-up soft law approaches may continue to be an option for progress in some areas, particularly where consensus can be

³⁰⁰ See, e.g., Juqian, *supra* note 159, at 43 (“Though voluntary ‘rules of the road’ have their advantages, ‘soft law’ is not enough for dealing with more and more complicated space activities. Rules with legally binding force are better for the international community”); Fermin Romero Vazquez, *EU Efforts for an ICoC: A Mexican Perspective*, in *AWAITING LAUNCH*, *supra* note 33, at 137, 141 (“Countries such as Mexico have argued the need for legally binding instruments to develop space law”); Lele, *supra* note 79, at 20 (“India, being an important player in the Space arena, needs to lobby for a transparent and binding CoC, which would eventually help in realising Space security”).

³⁰¹ Meyer, *supra* note 227.

³⁰² K. R. Sridhara Murthi & Mukund Rao, *ICoC: Perspective for India*, in *AWAITING LAUNCH*, *supra* note 33, at 159, 167 (“[T]here have been fears that [the ICoC] may slow down or divert efforts to build legally binding commitments that are essential for assuring the safety, security and sustainability of space activities”).

³⁰³ BILDER, *supra* note 70, at 38.

³⁰⁴ Juqian, *supra* note 159, at 43.

achieved on various technical and procedural issues and incorporated in non-binding standards and guidelines (which in turn may ultimately lead to hard rules in conventions or customary international law).

However, the security matters addressed by the Code are not conducive to resolution by soft law approaches, nor do they comprise an area in which soft law instruments effectively lay the foundation for the development of legally binding rules. Soft law in this context may instead present an obstacle to the development of such hard rules, even more so when ambiguities in these instruments allow subscribing states to take competing positions and approaches with respect to key rules.³⁰⁵

Rather than forming an agreed basis for the development of future norms, non-binding and indeterminate instruments in these situations may, as noted, be nothing more than a form of a “deferred confrontation” or simply reflect a profound lack of consensus on issues that are necessary to conclude a legally binding agreement.³⁰⁶ Instead of creating a solid foundation on which to build new legally binding obligations, soft law here may instead make such new legally binding norms even more difficult to achieve.

The design choices for the Code thus appear to reflect a large degree of continuing disagreement—and this lack of consensus is further demonstrated by the continuing unwillingness of several key spacefaring nations to subscribe to it. The struggles of the Code do not, however, indicate a need for more soft law. Instead, they indicate a need for targeted hard law initiatives (involving the participation of all major space stakeholders) to serve as a first step in addressing the most widely acknowledged threats confronting the safety and security of objects in space.

³⁰⁵ Ambiguous language used in an instrument to paper over differences between states may have a variety of negative effects on long-term efforts to develop binding international agreements, because such language can, among other things, “foster not only a false sense that an issue is no longer of concern because it has been resolved; it can also foster dangerous misconceptions of what has been gained or conceded in an agreement.” See Kittrie, *supra* note 123, at 1703–1704.

³⁰⁶ Chayes & Shelton, *supra* note 134, at 525 (noting that “recourse to non-binding norms may reflect a lack of consensus on the issues that make it impossible to conclude a binding agreement . . .”).

5.2. Avoid Arms Control Traps in Space

Any successful effort to achieve legally binding restrictions on military activities or weapons in space must focus on specific, definable, and limited objectives, or run afoul of issues that have historically ensured deadlock among suspicious and insecure adversaries.³⁰⁷ Some seemingly desirable goals, however, are likely to ensure failure.

The first such problematic goal involves attempting to use arms control agreements or other instruments to comprehensively ensure peace in space. Unfortunately, the integration of modern military systems on earth, sea, air, and space guarantees that, at some point, states seeking to disrupt or deny the ability of an adversary (such as the United States) to project power will find space capabilities to be a particularly appealing target, especially in the early stages of a crisis or conflict.³⁰⁸ The presence of so many things of military value in space thus makes actions by an adversary to neutralize, disrupt or destroy these things likely during a major conflict on earth.³⁰⁹

The second problematic arms control goal in space that seems certain to ensure stalemate involves attempting to define and prohibit military technologies with a view to broadly prevent the weaponization of space. Clearly defining a space weapon for purposes of any legally binding arms control agreement is a daunting task, one that is made particularly challenging by the “essentially

³⁰⁷ BRUCE W. MACDONALD, CHINA, SPACE WEAPONS, AND U.S. SECURITY 30 (Council on Foreign Relations Special Report No. 38, 2008) available at <http://www.cfr.org/china/china-space-weapons-us-security/p16707> [https://perma.cc/6YJ8-JYE2] (arguing that sweeping arms control proposals are unlikely to be verifiable and that historically such overbroad proposals “have acted more as a delaying tactic than serious policy”).

³⁰⁸ Schulte & Schaffer, *supra* note 44, at 10 (“For an adversary seeking to disrupt or deny the ability of the United States to project power, space capabilities may provide an appealing target set, especially early in a crisis or conflict”); Gordon G. Chang, *The Space Arms Race Begins*, FORBES, Nov. 6, 2009, <http://www.forbes.com/2009/11/05/space-arms-race-china-united-states-opinions-columnists-gordon-g-chang.html> [https://perma.cc/8B44-K4TP] (quoting the Chief of the Chinese Air Force in an article in the *People's Liberation Army Daily* as saying “Competition between military forces is developing towards the sky and space, it is extending beyond the atmosphere and even into outer space This development is a historical inevitability and cannot be undone”).

³⁰⁹ Kueter, *supra* note 172, at 2 (“War will find its way to space because there are things of military value in space and their denial or destruction would net a military advantage during a conflict”).

military nature of space technology.”³¹⁰ As noted, space technologies are routinely viewed as dual-use in nature, meaning that they can be readily employed for both civilian and military uses. Determining the ultimate purpose of many space technologies may thus depend on discerning the intentions of states, a process perhaps better suited for psychological than legal evaluation.³¹¹

Further complicating the classification of space military technologies is the inherent difficulty in distinguishing most space weapons on the basis of their offensive and defensive roles or even their specific missions.³¹² For example, this problem lies at the heart of debates over the status and future of ballistic missile defense (“BMD”) programs, since the technology underlying BMD systems and offensive ASAT weapons is often indistinguishable.³¹³ Vague and broad soft law instruments do not resolve this problem, but create instead their own confusion and insecurity. Vague and broad provisions in legally binding agreements that do not or cannot distinguish between these missions are similarly problematic.

These issues, particularly difficulties in distinguishing ASAT and BMD systems, have figured prominently in complicating ne-

³¹⁰ Aoki, *supra* note 57, at 60; Frans von der Dunk, *Contradictio in Terminis or Realpolitik? A Qualified Plea for a Role of ‘Soft Law’ in the Context of Space Activities*, in *SOFT LAW IN SPACE*, *supra* note 27, at 37 (noting that “military and strategic considerations” are “almost always prominently present in the context of space activities”).

³¹¹ Jane C. Hu, *The Battle for Space*, SLATE, Dec. 23 2014, http://www.slate.com/articles/health_and_science/space_20/2014/12/space_weapon_law_u_s_china_and_russia_developing_dangerous_dual_use_spacecraft.html [<https://perma.cc/94XZ-GPN8>] (noting that “[i]t’s difficult—if not impossible—to determine what counts as a space weapon. Identifying space weapons has become a psychological game: Experts must infer the intentions of the nation launching space objects”).

³¹² David Holloway, *The Soviet Perception for Reykjavik: Four Documents*, in *IMPLICATIONS OF THE REYKJAVIK SUMMIT ON ITS TWENTIETH ANNIVERSARY 45–96*, 45, 60 (Sidney D. Drell & George P. Shultz eds., 2007) (“Any space-based system carrying strike weapons (kinetic, energy beam, nuclear) is both offensive and defensive. There is no basis for separating space-based strike systems into offensive and purely defensive categories.”); Peter Hays, *Developments in Ballistic Missile Defences*, in *CELEBRATING THE SPACE AGE*, *supra* note 205, at 21, 22 (“Even a very limited BMD system will have significant ASAT capabilities. Thus there is significant overlap of BMD and space weaponization issues, which need to be seen as inter-linked issues”).

³¹³ JOAN JOHNSON-FREESE, *SPACE AS A STRATEGIC ASSET 7* (2007) (“A missile that can target another missile in flight (missile defense) can also target orbiting satellites From a technical perspective, it is not difficult to conceive of a missile defense system as an offensive antisatellite (ASAT) weapon”).

gotiations on space weapons over previous decades.³¹⁴ Similarly, these concerns were a significant factor in initial U.S. opposition to the arms control measure proposed by China and Russia (the "PPWT") since it prohibits states from placing any type of weapon in outer space (regardless of its military mission), thus effectively prohibiting the deployment of space-based missile defense interceptors or other space-based missile defense weapon capabilities.³¹⁵ Furthermore, even if clear legal restrictions could be developed, verifying compliance with respect to technology in orbit around Earth would be very difficult (a point conceded even by China with respect to its own proposed PPWT).³¹⁶

5.3. *Maintain a Focus on the Most Harmful Conduct*

The first steps in successfully addressing the greatest threats to space—which must be consciously undertaken against the backdrop of suspicion, insecurity and fears of a space arms race—are not sweeping and unverifiable bans on weapons or military technologies.³¹⁷ Instead, solutions lie in legally binding prohibitions on specific types of the most harmful conduct, restrictions that are also likely to benefit from more feasible methods of verification.

³¹⁴ Segey Oznobishchev, *Codes of Conduct for Outer Space*, in *OUTER SPACE: WEAPONS, DIPLOMACY, AND SECURITY*, *supra* note 165, at 72 (noting that this history "reveals the enormous complexity of trying to impose treaty-based legal restrictions on space systems").

³¹⁵ *Letter dated 19 August 2008 from the Permanent Representative of the United States of America Addressed to the Secretary-General of the Conference Transmitting Comments on the Draft "Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects (PPWT)" as Contained in Document CD/1839 of 29 February 2008*, at 4. The latest draft of the PPWT continues to broadly define the term "weapon in outer space" as "any outer space object or component thereof which has been produced or converted to destroy, damage or disrupt the normal functioning of objects in outer space, on the Earth's surface or in its atmosphere" Draft PPWT, June 12, 2014, *supra* note 85, art. I.b.

³¹⁶ MACDONALD, *supra* note 307, at 27 ("Notably, China itself has conceded the difficulty of verifying such an agreement. . . ."); Micah Zenko, *supra* note 407, at 3 (noting that "the United States and most other spacefaring nations correctly oppose the draft treaty on the grounds that it would be unverifiable and would not cover ground-based systems").

³¹⁷ MACDONALD, *supra* note 307, at 30 (noting that "[s]weeping proposals are probably unverifiable; certainly most deployment bans on such weapons would be. Historically, overbroad proposals have acted more as a delaying tactic than serious policy").

The best target for an initial multilateral agreement effort aimed at increasing safety and security in space is not difficult to find. The widely acknowledged, dangerous and growing problem of debris in space is well documented, as is the very real threat that it poses to all future uses of space. ASAT tests rank among the greatest concerns in the creation of such debris, as evidenced by the hugely damaging effects of the 2007 Chinese test (which inspired the drafting of the Code). The destruction of one large satellite alone can create as much debris as would otherwise be generated by seventy to eighty years of ordinary space activity under strict debris mitigation measures.³¹⁸ It is thus suggested that an urgent and important first step in preventing the further production of space debris is an international agreement banning the testing of destructive (debris-generating) ASATs.³¹⁹

No international agreement currently bans the testing, deployment or use of ASATs. With the exception of a ban on the placement of weapons of mass destruction in space under the Outer Space Treaty, no space weapons are currently prohibited by any international agreement at all.³²⁰ As noted, even the IADC Guidelines (and the COPUOS Space Debris Mitigation Guidelines that they inspired), fail to address the problem of ASAT testing. Such gaps support the larger criticism by many states and legal experts that the existing legal framework governing space is not adequate to ensure the security of space objects or prevent an arms race in space.³²¹ Yet addressing all these deficiencies at once is not a necessary first step.

Instead of attempting to prohibit broad categories of technology and their use (or designating all ASATs as a prohibited class of weapons), there should be a focus on specific conduct involving the most damaging ASAT weapons technology—interceptor vehicles or “hit-to-kill” systems employing kinetic energy (“KE”)—which represent the greatest current threat of weapons-related debris generation in space.³²² Fortunately, the testing of these weap-

³¹⁸ Wright, *supra* note 24, at 24.

³¹⁹ Jeffrey Lewis, ‘Hit-to-kill’ and the Threat to Space Assets, in *CELEBRATING THE SPACE AGE*, *supra* note 205, at 22–26.

³²⁰ Outer Space Treaty, *supra* note 4, art. IV.

³²¹ See, e.g., Tronchetti, *supra* note 29, at 367 (“[T]he majority of states and legal experts deem [the existing international legal framework] not adequate to prevent an arms race in space and to guarantee the security of space objects”).

³²² Lewis, *supra* note 319, at 22–23; MACDONALD, *supra* note 307, at 30 (noting that “[o]ne possible restriction that merits consideration is a ban on KE-ASAT

ons also presents a particular type of conduct that is within the competence of states to clearly define, regulate and verify under an appropriate international legal regime.³²³

Prohibiting tests of KE, hit-to-kill, debris-generating ASATs (or “destructive” ASAT tests) restricts the use of a weapon that appears to be in the early stages of spreading around the world, addresses real and effective technologies (while resisting futile attempts to define and regulate future exotic technologies), and maintains a narrow focus on banning the most threatening current technology—thus avoiding the difficulties inherent in achieving comprehensive arms control agreements.³²⁴ Because the orbital lifetime of fragments is shorter in low-earth orbits than in higher orbits (where there may be little or no natural orbital decay due to atmospheric drag), it has been suggested that an explicit ban on ASAT testing in higher geosynchronous orbits would be especially compelling.³²⁵

The growing threat of orbital space debris now threatens to make space unusable for all spacefaring countries, even for the great space powers. Once before, when nuclear tests in space by the superpowers in the Cold War brought competing nations to the brink of ruining orbital space and causing great damage on earth, both sides accepted mutual restraint to avert disaster and concluded a legally binding, multilateral agreement banning nuclear tests in space.³²⁶ For all spacefaring countries, and especially for the ma-

tests” and that satellites destroyed by KE-ASATs “could render important orbital areas inhospitable for military or civilian use for decades, even centuries”).

³²³ *Id.* at 23 (noting that an advantage of a ban on kinetic-energy ASAT testing is “that it would be both easy to define and to verify, and would allow for a dialogue to begin without sidestepping any issues”); Wright, *supra* note 24, at 26 (“One suggestion was that an advantage of a partial arms control measure, such as a ban on kinetic-energy ASAT testing, is that it would be both easy to define and to verify, and would allow for a dialogue to begin without sidestepping any issues”).

³²⁴ Lewis, *supra* note 319, at 23.

³²⁵ MACDONALD, *supra* note 307, at 30. As previously noted, however, debris in low earth orbit may persist for many decades, presenting a persistent threat to all spacecraft passing through it.

³²⁶ MOLTZ, *supra* note 95, at 28–29 (2014) (noting that a 1.4 megaton nuclear test in 1962 400km above earth created such large EMP emissions that it disabled seven satellites in low earth orbit.); Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, Aug. 5, 1963, 480 U.N.T.S. 43. Similarly, in spite of the tension and mutual mistrust that characterized the Cold War, the United States and the Soviet Union were able to develop specific, legally-binding rules and procedures governing the activities and interactions of their military forces in areas other than space (notably on the high seas) to better ensure

for space powers, the time for similar, focused, legally-binding restraint with respect to the issue of ASAT testing appears to have arrived.

5.4. *Develop Solutions in the Context of Insecurity, the Geopolitics of Space, and U.S. Skepticism*

China, Russia, and the United States have all successfully demonstrated ASAT capabilities in tests of various ASAT systems, including some which apparently involved directed energy weapons (particularly lasers) designed to incapacitate or “dazzle” satellites in non-destructive tests.³²⁷ However, the Russian government has not conducted a destructive ASAT test since 1983 and the last debris-generating American ASAT test took place in 1985.³²⁸ While the Chinese government has continued to develop new ASAT capabilities, it was clearly surprised by the widespread international outrage over its 2007 ASAT test and has not conducted any similar debris-generating tests since that time.³²⁹ Although these three ASAT-active countries appear to have little interest in conducting further destructive ASAT tests, they nonetheless have much to lose if other states pursue such testing.

New destructive ASAT tests would not only threaten space with vast new clouds of debris, but would also bring new fears, instability, and risks of weaponization.³³⁰ A new wave of destructive

the safety of navigation and reduce the possibility of conflict by accident, miscalculation, or the failure of communication. See *Prevention of Incidents on and over the High Sea*, U.S.-U.S.S.R., May 25, 1972, 23 U.S.T. 1168.

³²⁷ Laura Grego, *A History of Anti-Satellite Programs*, UNION OF CONCERNED SCIENTISTS 5-6, (Jan. 2009) http://www.ucsusa.org/sites/default/files/legacy/assets/documents/nwgs/a-history-of-ASAT-programs_lo-res.pdf [https://perma.cc/SS2D-6BTF].

³²⁸ *Id.*; see Koplow, *supra* note 284, at 1209 (noting that the 300 pieces of trackable debris generated by the last U.S. destructive ASAT test on September 13, 1985, took nineteen years to degrade out of orbit).

³²⁹ Phillip C. Saunders, *Testimony before the U.S.-China Economic and Security Review Commission Hearing on “China’s Space and Counterspace Programs”* 10 (Feb. 18, 2015), http://www.uscc.gov/sites/default/files/Saunders_Testimony2.18.15.pdf [https://perma.cc/9XQN-55ZG] (noting that Chinese officials appear to have learned from the mistakes they made in both the conduct of the 2007 ASAT test and how the information was presented publicly and observing that “subsequent 2010 and 2013 tests . . . were conducted against sub-orbital targets and did not create any long-lived space debris”).

³³⁰ Lewis, *supra* note 319, at 23 (noting that the introduction of ASAT weap-

ASAT weapon tests is not unimaginable, since countries other than China, Russia, and the United States, including India, Israel, and Japan; remain interested in developing hit-to-kill ASAT technology.³³¹ As rivalries in space expand far beyond the confines of the Cold War, it is important to note that even a limited conflict in space could be devastating, since the debris generated by such a conflict could result in the possible loss of near-earth orbit.³³²

Beyond the potential strategic benefits for the United States of a legally binding multilateral ban on destructive ASAT tests, no country has a greater stake than the United States in minimizing the amount of orbital debris (since it makes the most use of space).³³³ The most serious policy concern related to such a ban, at least in the view of some skeptical members of the U.S. Congress, remains the possible negative impact on U.S. BMD programs.³³⁴ For this reason, the United States may prefer to pursue a partial but nonetheless effective ban on the most destructive ASAT testing, one which is limited to at least prohibiting tests above a specified altitude (thus greatly reducing or eliminating the production of any long-lived debris while still permitting effective ballistic missile interception tests at lower altitudes).³³⁵

ons raise issues of “international stability” in addition to making it “much harder to reach cooperative agreements on issues such as debris mitigation or space traffic management”).

³³¹ *Id.*; Ross Liemer & Christopher F. Chyba, *A Verifiable Limited Test Ban for Anti-satellite Weapons*, 33 WASH. Q. 149, 154 (July 2010) (noting how India reportedly plans to “develop the capacity to destroy satellites in low-earth and polar orbits” and that Japanese legislation now permits the use of “outer space for military purposes of a defensive nature”); Lewis, *supra* note 319, at 147–49 (discussing kinetic energy ASAT development work in Israel, Japan, and European countries).

³³² MOLTZ, *supra* note 95, at 4 (2014).

³³³ Liemer & Chyba, *supra* note 331, at 154.

³³⁴ See, e.g., 160 CONG. REC. S6936 (daily ed. Jan. 2, 2015) (letter from Sen. David Vitter and Congressman Doug Lamborn to Mr. Frank Rose, Deputy Assistant Sec’y of State for Space and Def. Pol’y (Nov. 12, 2014)) (stating that “we seek [to] understand the Administration’s position on space arms control, specifically, any ‘debris generating kinetic energy ASAT testing moratorium’” and that “we fear a new threat to our ability to protect U.S. outer space capabilities, and, perhaps even to develop our missile defenses”).

³³⁵ Liemer & Chyba, *supra* note 331, at 156 (noting that “[a] test ban above 250–300 km has evidently been the de facto, voluntary practice of the United States in recent years” and that the “U.S. Missile Defense Agency reports that its ballistic missile intercept tests were conducted at an altitude of 230 km.” The authors further note that “evidently a ban on testing above 250 or 300 km would not unduly interfere with missile defense tests The United States would remain free (as would other nations) to intercept de-orbiting satellites or to conduct ballistic missile intercept tests below the specified altitude”).

To be effective, a ban on ASAT testing should be incorporated in a legally binding international convention that includes the major spacefaring states. Through this mechanism, states can convey credible commitments to not conduct ASAT tests, provide assurances of their compliance, and establish a framework with clear obligations on which arms control compliance; monitoring and verification measures can be built. It would also provide a solid foundation for making a prohibition on destructive ASAT tests a rule of customary international law.³³⁶ Participation by the legislatures of participating states in approving or authorizing the agreement would further advance these goals and also strengthen the credibility of underlying state commitments.

With respect to U.S. involvement in a ban on destructive ASAT tests, a legally binding agreement (benefitting from the authorization or approval of the U.S. Congress in the form of a treaty, congressional-executive agreement, or statutory authorization) that clearly prohibits such ASAT tests would more effectively contribute to the emergence of binding legal norm under customary international law and also enhance rather than diminish the leadership role that the United States has long played in the development of international space law.³³⁷

A final, practical, strategic reality remains for the United States and other countries as they contemplate the conclusion of appropriate legally binding multilateral conventions restricting ASAT tests or other explicitly defined harmful conduct in space. U.S. military planners (as well as the military authorities of the other space

³³⁶ Currently, no rule of customary international law prohibits ASAT testing, even though an examination of state practice indicates that barely half a dozen ASAT testing events have occurred within the past two decades, conducted by only three states. Unfortunately, the subjective element or *opinio juris* necessary to establish a rule of customary international law (that states are conforming to what they view is a legal obligation) is clearly lacking. See Koplou, *supra* note 284, at 1237–38 (noting that “the three ASAT-active States have certainly never indicated that any existing legal compulsion circumscribes their actions” and noting the conspicuous failure on the part of states to label the 2007 Chinese ASAT test as “illegal’ or ‘inconsistent with’ any particular legal obligations”).

³³⁷ As noted, clearly formulated rules of a “norm-creating character” which are first framed in legally binding agreements may later become binding rules of customary international law if they subsequently enjoy the “widespread and representative participation” of states and this state practice is carried out in such a way “as to be evidence of a belief that this practice is rendered obligatory by the existence of a rule of law requiring it.” See *N. Sea Cont'l Shelf*, 1969 I.C.J. 3, 42–44 (Feb. 20, 1969).

powers) must remain prepared to protect their assets in space in the event of a conflict in the strategically vital domain of space.

In spite of the goals of peaceful cooperation in space, U.S. military doctrine clearly requires the U.S. forces to be capable in time of conflict to take measures “to prevent an adversary’s hostile use of US/third-party space capabilities,” to successfully engage in “offensive operations to negate an adversary’s space capabilities used to interfere with or attack US/allied space systems,” and to negate “adversary space capabilities through deception, disruption, denial, degradation, or destruction actions.”³³⁸ Achieving these mission objectives seems highly unlikely if U.S. forces do not have the necessary weapons to achieve and maintain superior military capabilities.³³⁹

Some commentators have thus suggested that while the United States continues to pursue appropriate multilateral security agreements (such as one banning debris-generating ASAT tests) and continues to refrain from taking clearly provocative actions in space (particularly the flight testing and deployment of clearly-dedicated space weaponry), it should maintain a “hedging strategy against space warfare capabilities or unpleasant surprises.”³⁴⁰ Such a hedging strategy requires, among other things, laboratory research and development of basic ASAT technologies with a central goal of “providing assurance that the United States is not surprised, and technologically outdistanced, by advances in ASAT ca-

³³⁸ JOINT CHIEFS OF STAFF ET AL., JOINT STAFF PUBLICATION 3 - 14: SPACE OPERATIONS (29 May 2013), II-8, available at http://www.dtic.mil/doctrine/new_pubs/jp3_14.pdf [<https://perma.cc/3EY2-RHGD>].

³³⁹ *Report of the Commission to Assess United States Security Space Management and Organization*, U.S. DEPT. OF DEFENSE, Executive Summary, x (Jan. 11, 2001), available at <http://www.dod.gov/pubs/space20010111.html> [<https://perma.cc/3724-A8W3>]

[W]e know from history that every medium – air, land and sea – has seen conflict. Reality indicates that space will be no different. Given this virtual certainty, the U.S. must develop the means both to deter and to defend against hostile acts in and from space. This will require superior space capabilities.

³⁴⁰ MICHAEL KREPON & CHRISTOPHER CLARY, SPACE ASSURANCE OR SPACE DOMINANCE?: THE CASE AGAINST WEAPONIZING SPACE 78 (2003) (further arguing that deployment of war-fighting capabilities by the United States “is likely to generate the launch of relatively cheap, low-tech, but lethal ASATs by weaker adversaries” and that “the flight-testing and deployment of dedicated space weaponry would add new instability in crisis and new impulses toward escalation. It would be folly to invite these consequences unless it is absolutely necessary to do so”).

pabilities that another country is able to achieve.”³⁴¹

With these goals in mind, any arms control agreement or soft law instrument that the United States contemplates joining which will regulate space activities must be sufficiently precise to ensure that no implicit or *de facto* restrictions are imposed on essential defense capabilities or the ability to engage in strategic “hedging” (particularly military space R&D programs).³⁴² As discussed above, however, the broad and imprecise terms of the Code may raise concerns that the scrutiny of military programs by civil society in liberal democracies could result in *de facto* restrictions on important military R&D space weapon programs and related activities.

6. CONCLUSION

Efforts to prevent the proliferation of space debris cannot be fully realized without also dealing with the threat to the sustainable use of space posed by destructive ASAT tests. The Code’s proposed application of its own variant of soft law to these very different but related problem areas unfortunately portends failure. Modest but important progress in both these areas is, however, feasible through limited hard law approaches which focus on destructive ASAT testing in the context of the reality of acute security concerns.

Such tailored hard law approaches offer a genuine “next step” in solving the most serious problems confronting the international community in space. They also complement, rather than interfere with, successful bottom-up soft law approaches that allowed the space agencies of leading spacefaring states to generate technical guidelines reducing the routine generation of orbital space debris. These hard law approaches stand in stark contrast to the flawed

³⁴¹ *Id.* at 80 (noting that another central goal is “to provide assurance to potential adversaries that, should they initiate the flight-testing and deployment of space warfare capabilities, they will prompt a most unwelcome reaction by the United States”).

³⁴² Such policies are generally consistent with the position of the current and previous U.S. administrations. As previously noted, Secretary of State Clinton reaffirmed in 2012 the central U.S. commitment to preserving its national defense capabilities in space by noting that the United States will not enter into any code of conduct “that in any way constrains our national security-related activities in space or our ability to protect the United States and our allies.” See Press Statement, Sec’y of State Clinton, *supra* note 18.

variant of soft law embodied in the Code, one which risks confusion and increased insecurity even as it distracts states from pursuing more effective models.

While the U.S. government has indicated some interest in pursuing a ban on destructive ASAT tests, no proposal to ban ASAT tests is under consideration at this time. In spite of the merits of such an initiative, U.S. government officials indicated in late 2014 that no decision has been made to propose such an agreement.³⁴³ When asked to further explain this position during recent Congressional hearings, administration officials repeated that they had no plans to pursue a ban on debris-generating ASAT testing, noting instead that “[c]urrently, our diplomatic focus is on the development of an International Code of Conduct on Outer Space Activities.”³⁴⁴

The Code thus continues to consume the time and effort of the government of the United States and the governments of other states in the international community, diverting resources that could otherwise be dedicated to more meaningful steps to improve safety and security of space. In this sense, the proposed Code is not just a looming failure on the horizon but, to use another helpful space metaphor, it is also a black hole exerting a strong gravitational pull that few governments seem able to resist.

³⁴³ 160 CONG. REC. S6936 (daily ed. Jan. 2, 2015) (Letter from Julia Frifield, Assistant Secretary of State for Legislative Affairs, to Sen. Vitter (November 17, 2014)) (“At this time, the Administration has made no decision to propose the negotiation of a debris-generating ASAT testing moratorium . . . we have not made a specific proposal to allies for negotiation of a debris-generating ASAT testing moratorium”).

³⁴⁴ *Id.* (Letter from Julia Frifield, Assistant Secretary of State for Legislative Affairs, to Sen. Vitter, (Dec. 10, 2014) (“The administration has no plans to propose the negotiation of a debris-generating ASAT testing moratorium at this time Currently, our diplomatic focus is on the development of an International Code of Conduct on Outer Space Activities”).