TALKING SPACE

HISTORY, STRATEGIC COMMUNICATIONS, AND SPACE SECURITY

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Achieving US objectives in space requires the United States to focus on strategic messaging—in particular, public affairs and information operations. The Space Race of the 1960s and the Strategic Defense Initiative of the 1980s serve as critical case studies demonstrating the efficacy of strategic messaging in America's persistent endeavors to ensure global peaceful uses of space and to secure its defense and that of its Allies and partners.

To achieve US objectives in space, strategic messaging—especially public affairs (PA) and information operations (IO) like deterrence campaigns—is crucial.[1] With China and Russia ramping up their space militarization efforts, two American space initiatives—the 1960s-era Space Race and President Ronald Reagan's 1983 Strategic Defense Initiative (SDI)—offer guidance for how strategic messaging on Earth can help the United States win in space.[2]

Background

Space programs venture beyond accomplishing security objectives. They are essential to "the construction of a national identity."[3] Originally, space exploration emerged out of the competition between the democratic United States and communist Soviet Russia after World War II. Today, both nations tout their early successes from this 1960s-era "Space Race." While the Russians invoke Sputnik I's pioneering launch and Yuri Gagarin's orbiting the earth in the early '60s, the Americans acclaim the Apollo project and Neil Armstrong's legendary "small step" on the moon in 1969.[4] The elevation of these accomplishments to near mythical status within each nation's strategic

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2. Jack Detsch and Robbie Gramer, "China and Russia Are Catching Up to U.S. in Space Capabilities, Pentagon Warns," *Foreign Policy*, April 14, 2022, https://foreignpolicy.com/.

3. Asif A. Siddiqi, "Competing Technologies, National(ist) Narratives, and Universal Claims," *Technology & Culture* 51, no. 2 (2010): 427, https://www.jstor.org/.

4. Siddiqi, 426.

narrative demonstrates the Space Race embodied more than scientific achievement—it held "ideological, national, social, and psychological implications" that publicly tested each nation's unique "vision of humanity."[5] New York Congressman Victor Anfuso recognized this in his 1960 speech, when he described the Space Race as part of "a struggle for men's minds."[6]

America dominated space after the Cold War, but today China and Russia are aggressively contesting its space superiority. After the September 11, 2001, attacks, "space became a secondary priority for Washington and the two main elements of US spacepower—civil and military space—both struggled, allowing China and Russia to make relative gains," mainly by investing in commercial exploration, antisatellite weaponry, and launch technology.[7] Other nations—ally, neutral, and adversary alike—now have modern and competent space programs conducting operations.[8] But while the US military, as well as the Chinese and Russian militaries, see spacepower as "catastrophically decisive" for war, the American public remains unconvinced as to why US space superiority is so important.[9]

The United States' strategic messaging on space engages both international and domestic audiences and involves both public affairs functions and information operations such as deterrence campaigns.[10] Information operations aim to directly influence and manipulate foreign behavior; whereas, public affairs educates and informs the community—whether American or foreign—on US interests.[11] For example, the US military uses PA to teach the American people about why space is a national security issue, with the idea being that an informed public will support space operations given their strategic importance.[12] In contrast, IO is used to induce desired outcomes

5. David W. Reynolds, *Apollo: The Epic Journey to the Moon* (New York: Harcourt, 2002), 257; and Siddiqi, "Competing Technologies," 430.

6. Victor L. Anfuso, "Is Space a Way to Peace or War?" (speech, National Secretaries Association, Washington, DC, February 16, 1960).

7. James C. Moltz, "The Changing Dynamics of Twenty-First-Century Space Power," *Journal of Strategic Security* 12, no. 1 (2019): 21, https://www.jstor.org/.

8. Moltz.

9. United States Space Force (USSF), *Spacepower: Doctrine for Space Forces* (Washington, DC: USSF, June 2020), 26, https://www.spaceforce.mil/; JoAnna Wendel, "Not Enough Americans Understand the Need for Space Force, a Top Commander Says," Space.com, March 26, 2020, https://www.space.com/; and Thomas Novelly, "'Space Force? Is that Real?' Guardians Still Struggling with an Unconvinced Public," *Military.com*, January 28, 2022, https://www.military.com/.

10. James V. Keifer, "The Psychological Operations of the Military Element of National Power," in *Psychological Operations: Principles and Case Studies*, ed. Frank L. Goldstein (Maxwell AFB, AL: Air University Press [AUP], 1996); and Duane A. Opperman, *Information Operations and Public Affairs: A Union of Influence* (Carlisle Barracks, PA: US Army War College, March 22, 2012), https://apps.dtic.mil/.

11. Opperman, *Information Operations*.

12. Lloyd Free, "The Role of Public Opinion," in *Psychological Operations: Principles and Case Studies*, ed. Frank L. Goldstein (Maxwell AFB, AL: AUP, 1996); and Chairman of the Joint Chiefs of Staff (CJCS), *Public Affairs*, Joint Publication Note (JPN) 3-61 (Washington, DC: CJCS, November 2015), https://www.jcs.mil/.

from adversaries and others.[13] Deterrence is a type of information operation that, through credible actions or words, compels "potential enemies [to] perceive the cost of attack to be far greater than any possible gains."[14] The line between PA and IO sometimes blurs, given both rely on the use of information to achieve security goals, so strict laws and policies are set to delineate between the functions.[15]

Both the Space Race and the Strategic Defense Initiative used IO and PA to further national space objectives.[16] Applied to modern times, lessons from these endeavors can strengthen the prospect of space stability and help reignite American enthusiasm and support for space security initiatives.

Space Race

The Space Race set the standard for how information operations and public affairs could influence American space security. When the Russians launched Sputnik into orbit on October 4, 1957, American leadership persuaded their citizens of space's strategic value while convincing the world a Russian-dominated space was unacceptable. This period, spanning more than a decade and culminating in Armstrong being the first man to walk the moon, is aptly remembered as "thrilling, mind-boggling, [and] even magnificent."[17]

Sputnik struck a direct blow to the American psyche, overturning the post-World War II American perception of US scientific and military invincibility and causing a "crisis of confidence."[18] Ironically, Sputnik presented no immediate threat. It was a "simple sphere weighing just 184 pounds," intended to showcase Russian scientific literacy.[19] But in 1957, Sputnik jeopardized the period of peace sustained by the Cold War. To Americans, Sputnik foreshadowed ominous threats from Russia—scientific superiority, spy satellites, and, at worst, nuclear weapons orbiting above. Just 12 years before, America's Manhattan Project forever integrated technology, propaganda, and war by creating the atomic bomb. And while the United States still maintained a considerable scientific advantage, Sputnik made it feel illusory.[20]

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13. Edwin L. Armistead, ed., *Information Operations: The Hard Reality of Soft Power* (Washington, DC: Potomac Books, 2004), https://web.stanford.edu/.

14. Keifer, "Psychological Operations," 335.

15. Opperman, *Information Operations*.

16. Peter J. Westwick, "'Space-Strike Weapons' and the Soviet Response to SDI," *Diplomatic History* 32, no. 5 (2008), https://www.jstor.org/.

17. John N. Wilford, "With Fear and Wonder in Its Wake, Sputnik Lifted Us into the Future," *New York Times*, September 25, 2007, https://www.nytimes.com/ .

18. Siddiqi, "Competing Technologies," 428; and see also Douglas S. Anderson and Christopher R. Dooley, "Information Operations in the Space Law Arena: Science Fiction Becomes Reality," *International Law Studies* 76 (2002): 269, https://digital-commons.usnwc.edu/.

19. Wilford, "Fear and Wonder."

20. Karsten Werth, "A Surrogate for War—The U.S. Space Program in the 1960s," *Amerikastudien* 49, no. 4 (2004), https://www.jstor.org/.

President Dwight D. Eisenhower initially doubted Sputnik's military implications, dismissing the event as of only "scientific interest," but quickly realized Russia seized a substantial IO victory.[21] Virtually every American newspaper covered Sputnik with obsessive, alarmist, and detailed zeal, and the public outcry was substantial.[22] As the elected commander-in-chief, Eisenhower had a duty to respond to the widespread public concerns over Sputnik. Separately, Eisenhower also came to recognize space was the future of communications, giving Russia's Sputnik program direct and invaluable military application the United States lacked.

In response, Eisenhower and Congress created the National Aeronautics and Space Administration (NASA) to be the public face of American space initiatives.[23] NASA gave the government credibility that the United States would compete in space and prevent Russian dominance there. That NASA was a civilian agency was important, as it publicly implied America wanted space to have utility beyond war.[24] The new agency released nationwide campaigns employing nationalism, romanticism, and pragmatism to "consolidate political support" for space exploration.[25] NASA also actively dissociated itself from partisan issues, so it could communicate to all Americans and avoid the politicization of space.

At the same time, the Eisenhower administration elevated math and science in schools, which communicated the national need for technological achievement. Congress devoted substantial funds for research initiatives at universities while advanced technological courses were added to secondary school curricula.[26] To young adults, these changes underscored the modern intersection between science and national security.[27] War was no longer just about heart and muscle, but brains as well.

Most importantly, Eisenhower forged a vision for space that appealed to American values and confronted Soviet intent. Eisenhower marketed a "space for peace" and a "space for all mankind," secured by America, that contrasted with Soviet hypermilitarized space.[28] This appealed to Americans' elevated sense of global purpose after victory in World War II. Eisenhower's vision also gave America credibility within the international community. Future achievements like the UN's 1967 Outer Space

21. Wilford, "Fear and Wonder"; and Armistead, *Information Operations,* 35–36.

22. Walter McDougall, *The Heavens and the Earth: A Political History of the Space Age* (New York: Basic Books, 1985), 142.

23. McDougall.

24. Clayton R. Koppes, "The Militarization of the American Space Program: An Historical Perspective," *Virginia Quarterly Review* 60, no. 1 (1984), https://www.jstor.org/.

25. Siddiqi, "Competing Technologies," 429.

26. Siddiqi, 428.

27. Alvin Powell, "How Sputnik Changed U.S. Education," *Harvard Gazette*, October 11, 2007, https://news.harvard.edu/.

28. McDougall, *Heavens*, 194, 206–07.

Treaty—which banned nuclear weapons in space—plus post-Apollo collaboration with Russia on space exploration were a direct result of the American vision.[29]

John F. Kennedy's 1960 election to the presidency elevated the US space campaign onto the national political stage. No issue better embodied the New Frontier Americans voted for than space exploration.[30] For Kennedy, space was the key to twenty-first-century global leadership just as naval power and air superiority had sustained previous empires. He proclaimed that "control of space will be decided in the next decade" and stated that "if the Soviets control space, they can control the earth, as in past centuries the nation that controlled the seas has dominated the continents."[31]

After the Russians launched Gagarin into orbit for the first human spaceflight in 1961, Kennedy recognized the psychological toll on the American public from "losing" again to the Soviets and smartly raised the urgency to compete, declaring "there's nothing more important."[32] He called on the United States to land a man on the moon by the end of the decade. This created a concrete and clear goal for the Cold War, which otherwise lacked tangible outcomes for victory beyond the defeat of communism. To Kennedy, a victory for America over Russia in the race to the moon would accomplish what all the proxy wars on Earth could not: to "demonstrate the superiority of the US political system and American way of life," and to "keep the communist system in check, and in the long run, help to bring about its downfall."[33]

Kennedy and President Lyndon B. Johnson spent the substantial political capital that Eisenhower's vision for space had earned the United States to lead on space policy, both at home and abroad. For example, the 1967 Outer Space Treaty was ratified unanimously by the Senate and then the UN, a victory enabled by US international credibility on space exploration. That treaty "denuclearized outer space and demilitarized the moon," but permitted military satellites and other weaponry to be used in orbit.[34] Conceding some militarization of space—something the Eisenhower administration did not want to do—ironically prompted peace on Earth.[35] Because the Outer Space Treaty made spy satellites legal, the Russians and Americans could police one another's actions from orbit.[36]

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29. McDougall, *Heavens*; and Jeffrey Kluger, "The U.S. and Russia Signal Continued Cooperation—In Space, At Least," *Time*, October 7, 2022, https://time.com/.

30. McDougall, *Heavens*.

31. Werth, "Surrogate for War," 567.

32. Hugh Sidey, *John F. Kennedy: President* (Cambridge, MA: Athenaeum Press, 1963), 123.

33. Werth, "Surrogate for War," 572–73.

34. McDougall, *Heavens*, 419.

35. Jeremy Grunert, "The 'Peaceful Use' of Outer Space?," War on the Rocks, June 22, 2021, https://warontherocks.com/.

36. McDougall, *Heavens*.

The Space Race as an Information Operation

Because the Space Race was "primarily executed through the media," it was an information war that successfully utilized modern public affairs and information operations concepts.[37] The American press' patriotic and concerned reporting of Sputnik convinced the Eisenhower administration to move aggressively on space exploration and then facilitated the White House's national political response. Journalists exercised their ethical discretion to protect diplomatic negotiations on space, and the nations learned about each other's space programs primarily by studying public reporting.[38]

Through it all, Americans tuned to front pages and evening news bulletins plastered with Space Race updates—neither the Vietnam War nor Martin Luther King Jr.'s assassination received the same media attention as Apollo. And while the Soviets heavily regulated reporting on their space programs, the American media had substantial access to critical space projects.[39] Launches and experiments were broadcast live, like sportscasts of American major league games, generating a unifying level of excitement the Soviet networks could not duplicate.

Strategic Defense Initiative

Throughout the Space Race, the US nuclear arsenal was a strong deterrent to Russian military aggression, as Soviet leaders believed their lack of reliable intercontinental ballistic missile defense was a significant problem.[40] They invested substantial resources into antiballistic missile (ABM) defense systems and—while America landed on the moon—developed ABM weaponry so sophisticated that the United States could no longer launch a sufficiently disarming preemptive strike against the Soviet Union.[41] Thus, in 1970 both sides were again vulnerable to complete annihilation from a retaliatory strike—maintaining the world's period of peace due to fear of nuclear war.

Due to the prospect of ABM systems, the United States and Russia stockpiled nuclear weapons that could overwhelm the new defensive technology. This was a precarious development. Consequently, President Richard Nixon believed limiting ABM defenses would end the ongoing arms race and convinced the Soviets the world was more secure without them. Both nations signed the ABM Treaty in 1972, drastically reducing deployment of these systems. That treaty "codified a situation in which the [powers] were [again] equally vulnerable to a retaliatory strike, no matter who struck first."[42]

Yet the Russians continued to covertly research ABM technologies and circumvented the treaty by deploying illicit ABM defenses and installing prohibited warning

37. Werth, "Surrogate for War," 577; and see also Reynolds, *Apollo*, 257.

38. McDougall, *Heavens*; and Werth, "Surrogate for War."

39. Werth, "Surrogate for War."

40. David Halloway, "The Strategic Defense Initiative and the Soviet Response," *Daedalus* 114, no. 3 (1985): 258, https://www.jstor.org/.

41. Halloway, 259.

42. Halloway, 261.

radar.[43] When Reagan was elected president in 1980, the Soviets had the world's only operational ABM system, and American officials considered rescinding the treaty to use the technology on US soil.[44]

Reagan recognized that a serious and clear American demonstration of strength to Russia could peacefully deter the Soviet Union's malfeasance, including its noncompliance with the ABM Treaty. Reagan announced the Strategic Defense Initiative on March 23, 1983. Known colloquially as the Star Wars program, SDI would counter the Soviet threat by developing space-based lasers that could "intercept and destroy strategic ballistic missiles before they reached [US] soil or that of [US] allies," although Reagan's version only envisioned it as a research program.[45] SDI's functional focus was exclusively missile defense, eschewing the same technology for offensive purposes.

Although packaged as scientific research, the initiative was designed specifically to deter the Russian missile program while maintaining American righteousness and credibility. SDI would only address prefatory technological questions about space-based missile defense while deployment of any such technology was for a future government to decide on. Unlike Russia's ongoing ABM operations, SDI was legal: because the program only sponsored research, it bypassed otherwise applicable prohibitions addressing testing and usage in both the Outer Space and ABM treaties.[46]

Also, timing was critically important to SDI's strategic value. The Russian economy cratered in the 1980s, so support of the communist government was teetering. To compete with SDI, the Russians needed vast amounts of money they did not have for a new research initiative, after already falling behind in other areas of scientific development.[47]

As a deterrent, the Strategic Defense Initiative complied with international law while simultaneously communicating to the Soviets an implicit threat of game-changing weaponry. Offensive ballistic missiles and any defensive weapons like the SDI system were inextricably linked; if the Americans developed a space-based laser that could reliably destroy nuclear weapons, Russia's stockpile was effectively worthless.[48] Further, Soviet diplomats believed SDI would inevitably culminate with offensive US weapons in space, including space-to-earth weapons.[49] Thus, SDI instilled military fear into a destabilizing Russia while remaining within the bounds of international norms, putting the Soviets in a precarious strategic position.

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43. Halloway.

44. Richard N. Perle, "The Strategic Defense Initiative: Addressing Some Misconceptions," *Journal of International Affairs* 39, no. 1 (1985), https://www.jstor.org/.

45. Ronald Reagan, "Address to the Nation on Defense and National Security" (Oval Office address, Washington, DC, March 23, 1983), https://www.reaganlibrary.gov/; and see also Perle, "Strategic Defense Initiative," 27–28.

46. Perle, "Strategic Defense Initiative."

47. Paul Podvig, "Did Star Wars Help End the Cold War? Soviet Response to the SDI Program," *Science & Global Security* 25, no. 1 (2017), https://doi.org/.

48. Perle, "Strategic Defense Initiative."

49. Westwick, "Space-Strike Weapons."

The deterrence scheme made diplomatic headway with the Russians possible.[50] The Soviets "harped on [the Strategic Defense Initiative] at every opportunity" even as their scientists pointed out such technology would be extremely difficult to develop.[51] Six months after Reagan announced SDI, the Soviets proposed a treaty banning all space weapons and paused further tests of its antisatellite weaponry. That new proposal did not materialize, but the Soviets kept returning to the negotiating table, always insisting on including the initiative in any treaty discussions. Simultaneously, the Russians launched a national effort to compete with SDI.[52] But the Russian economy could not sustain such an expensive project and political support for it was insufficient. There would be no 1980s Space Race due to the Strategic Defense Initiative.

Scholars disagree on the extent to which the initiative contributed to the Soviet Union's fall, but the possibilities it posed deterred Soviet aggression and materially affected the bargaining position of Soviet diplomats.[53] SDI as a deterrence message was more valuable to American security than it ever was as potential weaponry.

The Space Race, SDI, and Modern Space Objectives

Today, the federal government recognizes space as "vital to [the] Nation's security, prosperity, and scientific achievement," and acknowledges US space capabilities are indispensable to contemporary US military power.[54] The Department of Defense emphasizes three objectives in space: (1) maintaining superiority, (2) improving joint operations, and (3) ensuring stability.[55] President Joseph Biden's *National Security Strategy* and related documents focus on tangible goals, such as establishing a space traffic coordination system as well as new defense research opportunities, to achieve these objectives.[56] But the US experience with the Space Race and SDI, especially the lessons related to deterrence, also offer compelling reasons to engage in strategic messaging about US space achievements via public affairs and information operations.

Today's Global Space Competition

Since Sputnik, space has evolved into a distinct warfighting domain where the United States must aggressively compete with world powers, including in space-related messaging contests on Earth.[57] The rise of China and revival of Russia in space

50. Keifer, "Psychological Operations."

51. Westwick, "Space-Strike Weapons," 956.

52. Podvig, "Star Wars."

53. Podvig.

54. Department of Defense (DoD), *Defense Space Strategy Summary* (Washington, DC: DoD, June 2020), 1, https://media.defense.gov/.

55. *Defense Space Strategy*, 6–9.

56. Joseph R. Biden, *National Security Strategy* (Washington, DC: White House, October 2022), 45, https://www.whitehouse.gov/ .

57. *Defense Space Strategy*, 1; and Moltz, "Changing Dynamics," 21.

have made today a military inflection point, so US strategic messaging must be at its best.[58]

Space operations in America, China, and Russia are locked in an action-reaction model of increasing militarization, driven by a shared ambivalence about each nation's intentions and capabilities.[59] This ambivalence encourages a more prominent role for IO and PA. Both Russian and Chinese leadership "tend toward confirmation bias" for American space operations, whereby any space activities viewed as "plausibly 'aggressive' " automatically reinforce their perception of hostile US intent.[60]

Accordingly, China is moving aggressively to dominate space, with enthusiastic support from President Xi Jinping.[61] The nation rapidly fielded effective antisatellite missiles that can hit low-earth-orbit targets and plans to reach geosynchronous earth orbit assets next.[62] China also boasts a robotic arm attached to a satellite that can likely disable orbiting assets, and for the last three years, it has led the world in rockets fired into space.[63]

Similarly, Russian leadership still perceives space as foundational to national excellence, while President Vladimir Putin accuses the United States of trying to militarize outer space—a situation that then requires a countervailing Russian response.[64] Russia reorganized its space programs to be more agile and creative, investing heavily to build some of the world's most capable intelligence satellites. The nation made significant strides in orbital warfare assets and antisatellite weaponry, such as its "nesting doll" satellite that releases subsatellites in orbit as kamikaze-style missiles.[65] Russia's space ambitions are more limited than China's—due largely to financial constraints—but the nation nevertheless remains a persistent US competitor.

Messaging Clarity on Space

China and Russia used America's longstanding space superiority to justify their continued weaponization of space, citing fear of US space operations.[66] Now, all three

58. Moltz, "Changing Dynamics."

59. Alexis A. Blanc et al., *Chinese and Russian Perceptions of and Responses to U.S. Military Activities in the Space Domain* (Santa Monica, CA: RAND Corporation, 2022), https://doi.org/.

60. Blanc et al., iv–v.

61. Moltz, "Changing Dynamics," 16; and see also Christian Shepherd and James Kynge, "China's Ambitions in Space: National Pride or Taking On the Americans?," *Financial Times*, May 8, 2021, https://www.ft.com/.

62. Defense Intelligence Agency (DIA), *Challenges to Security in Space: Space Reliance on an Era of Space Competition and Expansion* (Washington, DC: DIA, 2022), https://www.dia.mil/.

63. Moltz, "Changing Dynamics."

64. DIA, *Challenges to Security*, 21; see also Damien Sharkov, "Russia Fears U.S. Is Planning for Space War," *Newsweek*, January 16, 2018, https://www.newsweek.com/; and Holly Ellyat, "Putin Fears the US and NATO Are Militarizing Space and Russia Is Right to Worry, Experts Say," *CNBC*, December 5, 2019, https://www.cnbc.com/ .

65. DIA, *Challenges to Security*; and Dan Robitzski, "Russia Just Tested a Military Satellite That Kills Other Satellites," Byte (website), July 23, 2020, https://futurism.com/.

66. Baohui Zhang, "The Security Dilemma in the U.S.-China Military Space Relationship," *Asian Survey* 51, no. 2 (March/April 2011); and Sharkov, "Russia Fears."

nations spar over who is leading this modern space contest while each pours more resources into it. This limbo represents a security dilemma, with China and Russia challenging American hegemony, and the United States responding in kind to maintain the status quo.[67]

Departing from US leaders in the Space Race and the Strategic Defense Initiative eras, modern US leadership embraces a more covert approach to space operations—especially where national security is implicated—that limits IO opportunities. The Space Race was executed primarily through the media, with the Americans and Russians foregoing some secrecy to foment nationalism while engaging the world and one another. With the SDI, Reagan announced the project in a nationally televised address from the Oval Office, the most public stage in American politics.[68]

Today, unlike the late 1980s, US military operations, commercial research, and the entire societal infrastructure are inoperable without space. Thus Space Force operations are almost entirely highly classified to protect these functions.[69] This secrecy is intended to "maintain [the US] competitive edge in space," but China and Russia are now similarly clandestine—manifesting a space competition that discourages public diplomacy and communication.[70]

Yet the Space Race and SDI demonstrate that bold public messaging can positively affect space outcomes, especially when the United States has a credible and strong diplomatic position. China and Russia react to what the United States does and wants to do in space. With the Space Force being a young and nimble service, there is opportunity to conduct strategic IO—through actions and words—directed at China and Russia to help achieve national space goals.[71]

At times, American space IO can serve as a metaphorical carrot designed to incentivize cooperation.[72] In the Space Race, Eisenhower and Kennedy insisted on peaceful space, and US actions gave their words immense credibility. The decision to have a civilian agency, NASA, lead space efforts successfully communicated these intentions, while open press access to important US space events proved the US space program served all humankind.[73]

American public leadership on the peaceful use of space—juxtaposed with existing US technological advantages—led to space treaties and even collaboration with Russia on civilian space research.[74] Today, an American government that signals an intent

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67. Zhang, "Security Dilemma"; and Kenneth N. Waltz, *Theory of International Politics* (Longrove, IL: Waveland Press, 1979), 191.

68. Reagan, "Address to the Nation."

69. Wendel, "Not Enough Americans"; and Joseph Trevithick, "Secret Space Force Capabilities Could Be Declassified if New Bill Becomes Law," The Drive, December 8, 2021, https://www.thedrive.com/.

70. Trevithick, "Secret Space Force."

71. Zhang, "Security Dilemma," 330.

72. Joseph S. Nye Jr., "Public Diplomacy and Soft Power," *Annals of the American Academy of Political and Social Science* 616 (2008), https://www.jstor.org/.

73. Koppes, "Militarization of American Space"; and Werth, "Surrogate for War."

74. Kluger, "Continued Cooperation."

to compromise or cooperate—just when Russia and China expect the opposite—could help bring détente to existing space tensions.

In other instances, US space posture represents a stick, designed to deter or coerce.[75] For example, SDI's announcement sought to directly exploit Soviet Russia's weaker space capabilities and existing economic troubles.[76] Some US Air Force and US Space Force leaders today actively question why the Space Force has not publicly demonstrated its best warfighting capabilities.[77] China and Russia already complete antisatellite weaponry tests that communicate their space ambitions, and US hesitancy to do so could be interpreted as weakness.[78] If US technology can deter this aggression—or America can announce a military effort, in the style of SDI, with the same effect—boldly broadcasting that to China and Russia may also de-escalate space conflict.

American space initiatives would benefit from the specific and clear public posture the United States once took with the Space Race and SDI. Today, American leaders affirm rhetoric used in international policy that the peaceful use of space is a "goal, if not an unwritten requirement, of space activities."[79] In addition, the Space Force's warfighting doctrine establishes as one of its guiding principles that the United States "desires a peaceful, secure, stable, and accessible space domain."[80] This philosophy has been maintained by US presidents since Eisenhower first expressed it.[81]

The problem, however, is that peaceful space now is paradoxical. The Space Force is a military service that guards US interests in space as a warfighting domain, and "today, no state relies more on spacepower for its national security . . . than the United States," with China and Russia close behind.[82] Such unclear messages on modern American intentions in space—which China and Russia now mirror—frustrate international relations regarding the domain.[83]

Accordingly, ongoing diplomatic negotiations over space law have stalled due to distrust amongst the major players and an inability to separate mutual interests from strategic competition.[84] When diplomats meet to develop law and policy, they attempt to "construct a network of reasonable behavioral expectations" about their nations

75. Nye, "Public Diplomacy," 94–95.

76. Perle, "Strategic Defense Initiative."

77. Joseph Trevithick, "USAF Secretary Gives Ominous Warning that Show of Force Needed to Deter Space Attacks," The Drive, April 12, 2019, https://www.thedrive.com/.

78. Moltz, "Changing Dynamics"; and Robitzski, "Russia Just Tested."

79. Grunert, "Peaceful Use."

80. USSF, *Spacepower*, vi.

81. McDougall, *Heavens*; and Grunert, "Peaceful Use."

82. Everett C. Dolman, "Space is a Warfighting Domain," *Æther: A Journal of Strategic Airpower & Spacepower* 1, no. 1 (2022): 82, https://www.airuniversity.af.edu/.

83. Mari K. Eder, "Strategic Communications and the Battle of Ideas," *International Law Studies* 83 (2007): 236, https://digital-commons.usnwc.edu/; and Blanc et al., *Chinese and Russian Perceptions*.

84. Ryo Nakamura and Tomoyo Ogawa, "US, China and Russia Lock Horns over Weaponization of Space," *Nikkei Asia*, July 29, 2020, https://asia.nikkei.com/.

"that yield[s] stability and predictability" in space.[85] This exercise pits the "practical national security objectives [in space] against the desire to maintain at least one environmental realm free from military conflict."[86]

The behavior of China, Russia, and the United States signals an intent to further militarize space and test the bounds of the Outer Space Treaty, and thus US public negotiating demands on space should reflect this. Without a "competitors' understanding of U.S. intent and capabilities," America's deterrence powers are handicapped, which weakens US leverage in international discussions.[87] This is why Reagan's Oval Office address on SDI was so critical to affecting Russian behavior: his announcement—from America's most serious stage—made the program a legitimate threat.[88] Separately, Eisenhower's peaceful vision for space succeeded because it explicitly contrasted with the Russian threat of space dominance and aligned with actual US government action on the Apollo project.[89]

Russia and China pay close attention to ongoing US operations in space, so deterrence and downstream negotiations fail if messages are transmitted unclearly or without credibility.[90] The United States has already struggled to bargain in other domains of diplomacy because of its mixed messages, which can frustrate adversaries and confuse Allies. The public US wavering between peaceful and warfighting space likely exacerbates these responses, which is why China and Russia view US space operations with intense concern regardless of their hostility.[91]

Space as a Military Domain

By resetting discussions with the understanding that space is a military domain, America can lead the space powers to sort out more important questions for "stability and predictability," such as what responsible military operations in space look like.[92] Framing US space negotiations to account for existing realities and the nation's long-term vision is critical to their success. For example, Reagan received political and international cover for SDI through his explanation of Russia's ongoing ABM Treaty violations, and Eisenhower's peaceful vision for space earned the United States significant international cooperation in the Space Race.[93]

Thus, a clear and practical vision for space would free American diplomats to negotiate rules that address and anticipate military activity. This is akin to international law

85. Martin Feinrider, "The Strategic Defense Initiative and International Law," *Fletcher Forum* 10, no.1 (1986): 20, https://www.jstor.org/.

86. Anderson and Dooley, "Information Operations," 272.

87. DoD, *2022 National Defense Strategy of the United States of America* (Washington, DC: DoD, 2022), 9, https://media.defense.gov/.

88. Ronald Reagan, "Address to the Nation"; and Perle, "Strategic Defense Initiative."

89. McDougall, *Heavens*.

90. DoD, *National Defense Strategy*, 9.

91. USSF, *Spacepower;* Dolman, "Warfighting Domain"; and Blanc et al., *Chinese and Russian Perceptions*.

92. Feinrider, "Strategic Defense Initiative."

93. McDougall, *Heavens*.

on Earth, where certain military operations are justified and permitted, while others are not.[94] Because this communications approach reflects that space is already militarized, international negotiators can target the more obtainable goal of space stability.

Of course, a bolder public posture by the United States, if misinterpreted, could lead to what the Defense Department warns against: "unknowingly driving competition to aggression."[95] How the United States communicates its space intentions and the risks embedded in such decisions are concerns primarily reserved for the president.[96] Some factors the president would likely account for include whether China or Russia would respond to US overtures in good faith, alter their own space programs, or change their understanding of space policy. Yet for both ongoing messaging campaigns abroad and future ones, the United States would benefit from being bold, clear, and practical. The Space Race and SDI highlight the benefits of such language.

National Vision for Space

On the public affairs side, the United States needs an updated national vision for space that inspires national unity while effectively courting political and professional support. Americans remain unsure about space's national security significance. This situation counteracts the ability to manifest consistent and national support for the Space Force and other national space objectives. At the Satellite 2020 conference in Washington, DC, then-Lieutenant General David Thompson, the Space Force's vice chief of space operations, noted that "not enough people innately understand what we already do in space in a military sense."[97]

The press—which so passionately reported on the Space Race in the 1960s—does not maintain the same coverage and interest about space security now, even though the stakes in space are much higher.[98] This has allowed other media, like the Netflix satire series *Space Force*, to overshadow Space Force's already paltry news coverage and further distance Americans from space's strategic importance.

Meanwhile, US space dominance is waning, with some critics already declaring this modern space race iteration lost as NASA and the Space Force struggle to compete with Chinese and Russian technology.[99] For example, rudimentary tasks for the Apollo program are onerous today, as NASA's Artemis program has been delayed for years because of an inability to manufacture adequate space suits.[100] And as one aerospace expert argues, "very little of [the] future backbone of space utility is

94. Emmerich de Vattel, *Law of Nations* (1758), Joseph Chitty edition (Philadelphia: T & J. W. Johnson & Co, 1883); and UN Charter, ch. 1, art. II., https://www.un.org/.

95. DoD, *National Defense Strategy*, 9.

96. Youngstown Sheet & Tube Co. v. Sawyer, 343 U.S. 579, 635–38 (1952).

97. Wendel, "Not Enough Americans."

98. McDougall, *Heavens*.

99. Charles Beames, "The Second Space Race Is Underway. America Is Already Losing It," *CNN Business,* July 18, 2019, https://www.cnn.com/.

100. Jake Dean, "Spacesuits and Other Issues Mean NASA Isn't Landing on the Moon in 2024," *Slate*, August 13, 2021, https://slate.com/.

American-owned," which will hinder space-focused manufacturing and commercial viability if left unchanged.[101]

The United States needs an improved sales pitch to reinvigorate the American people's interest in space and ensure it is adequately invested in and protected. Yet the challenge lies in making space significant enough to American everyday life that people care about it. In 2021, Chief of Space Operations General John Raymond noted the difficulty in establishing a "connection" between US activities in space and the American public: "Space doesn't have a mother. . . . You can't reach out and hug a satellite. You can't see it. You can't touch it."[102]

Yet Kennedy's romanticization of the Apollo program demonstrates real power in using pathos to craft a unifying national narrative on space. Kennedy sold the American people on not only the military and strategic significance of going to space as part of the Cold War, but also the emotional reward this transcendent adventure would provide. Working together, Americans could settle the New Frontier and swim in the "new ocean."[103] As NASA led operations throughout the Space Race, it mimicked themes Kennedy versified in day-to-day communications. Today's PA approach should use a similar emotional appeal given space is still a relatively unknown and exciting frontier whose exploration—if appropriately explained—can excite the public's interest.

Relatedly, military leadership should look for opportunities to incorporate the space mission with more public-facing and tangible projects to further inspire American enthusiasm for space and demonstrate its importance. National Security Adviser Jake Sullivan describes the current administration's vision as a "foreign policy for the middle class."[104] Accordingly, US leadership can market space's role in delivering for everyday Americans. This might include, for example, prioritizing asteroid mining, which can provide blue-collar jobs and raw materials to energize American industry. Domesticizing the metals supply chain is already a national security imperative; a central role in achieving this could excite the nation about space.[105]

Or, US political leadership could expand Space Force's limited geopolitical footprint into specific areas like Appalachia that need commercial investment, which would ignite legions of patriotic towns that were left behind by trade globalization. A plan like this would effectuate the themes of purpose, patriotism, and persistence characterized in the biographical film *October Sky* (1999), which centered on the son of a coal miner and his dream of becoming a rocket scientist, much like NASA designed its messaging to evoke similar feelings during the Space Race.

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101. Beames, "Second Space Race."

102. Miriam Kramer, "The Space Force's PR Problem," *Axios*, February 9, 2021, https://www.axios.com/; and Werth, "Surrogate for War," 568.

103. John W. Jordan, "Kennedy's Romantic Moon and Its Rhetorical Legacy for Space Exploration," *Rhetoric and Public Affairs* 6, no. 2 (Summer 2003), 209; and McDougall, *Heavens*.

104. Elyse Labbot, "The Sullivan Model," *Foreign Policy*, November 24, 2020, https://foreignpolicy.com/.

105. "FACT SHEET: Securing a Made in America Supply Chain for Critical Minerals," press release, White House, February 22, 2022, https://www.whitehouse.gov/.

Success in space requires public buy-in from the American people and their leaders, which means space operations must be promoted nationally and in a manner befitting their significance. The Space Race and the Strategic Defense Initiative were high-profile, national stories with direct presidential involvement—including from the Oval Office.[106] But today, both the Space Force and NASA often take a political backseat to ongoing military theaters on Earth, like in Ukraine, and international responses to rogue states like Iran and North Korea.

Space Force needs messaging campaigns that carve out a clear public lane among America's competitive and crowded national interests. Accordingly, the Space Force must implement PA campaigns that engage broader political support, so that US leadership invests more resources in and attention on space. This is a fine line to navigate, but one a nimble, innovative, and mission-critical service like the Space Force should try to fulfill.

Conclusion

The Space Race and the Strategic Defense Initiative offer insight into achieving space objectives today using strategic communications, specifically through public affairs functions and information operations focused on deterrence. A bolder, clearer, and more pragmatic approach to strategic messaging with Russia and China could buy the United States negotiating leverage and credibility on space policy, and even deter these nations' ongoing space weaponization. Separately, to achieve national goals in space, America needs an inspiring and broad vision to excite its citizens about spacepower. **Æ**

106. Reagan, "Address to the Nation."