

US SPACE COMMAND'S DETERRENT ROLE

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Growing global interest in developing space-based systems, from economic to defense, make the requirements of the Outer Space Treaty of 1967 to maintain a peaceful space environment even more challenging. As US Space Command works to deter aggression in space, an examination of deterrence theory and the US and Soviet experience before, during, and after the 1983 Able Archer exercise provides insights for a successful approach to deterrence in space. Such an approach should be focused on stratified deterrence, dissuasion deterrence, and control of space.

Over the years, deterrence theory has gone through several permutations.¹ Still, at its core, it generally relies on using military and nonmilitary threats to prevent an aggressor from acting.² The impetus to deter aggression in space grows stronger every year. But what does deterrence look like in space?

Analysis of contemporary deterrence theories and their real-world applications provide a foundation for US Space Command to understand how current geopolitical conditions influence deterrence efforts in the space domain. Such an analysis demonstrates deterrence is a multifaceted and complex endeavor. At its core, deterrence is achieved through low-level diplomatic efforts of the command, which must engage with all of the actors in space.

The command must develop relevant deterrence strategies that address the unique context and perspective of each actor, develop resilient space network solutions, and seize leadership control of space to maintain globally responsible space behavior. A review of the evolution of thinking regarding the United States' approach to space deterrence and an analysis of nuclear war theory as well as the historical case study Able Archer 83 reveal the ways in which US Space Command can successfully deter aggression in space in a multipolar world.

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1. Frans-Paul van der Putten, Minke Meijnders, and Jan Rood, "Deterrence as a Security Concept against Non-Traditional Threats," in *Clingendael Monitor 2015*, ed. Frans-Paul van der Putten, Minke Meijnders, and Jan Rood (Hague, Netherlands: Clingendael Institute, June 2015), 9, <https://www.clingendael.org/>.

2. Michael Mazarr, *Understanding Deterrence* (Santa Monica, CA: RAND Corporation, 2018), 4.

Background

In 1961 the United Nations General Assembly passed Resolution 1721, declaring space was free and open to all nations.³ Essentially, war was off-limits in space. This did not prevent various countries from attempting to leverage space to support military actions in other domains and hence the United States from considering counter-measures. In 1962, President John F. Kennedy debated whether using reconnaissance satellites was peaceful or aggressive.⁴ In 1983, President Ronald Reagan introduced the Strategic Defense Initiative, seeking to use space-based assets to detect Soviet missile launches.⁵ This was followed by the first Gulf War in 1991, which featured the integration of space to facilitate terrestrial warfare.⁶ Today, commercial space assets have been used heavily in Ukraine for communications, targeting, and reconnaissance.⁷ Space has now become an integral part of most advanced nations' strategic thinking, encompassing all elements of national power.

As technology evolves and space becomes more accessible, US Space Command faces the dilemma of deterring aggression in space from global competitors while adhering to the international ideals of the Outer Space Treaty of 1967, which ensures that "the exploration and use of outer space shall be carried out for the benefit and in the interests of all countries and shall be the province of all mankind."⁸ China, for one, is building its space capabilities with an eye toward "expansionism, territoriality, and resource nationalism."⁹ The United States is primarily interested in commercial and military uses of space, and it has stated that extraterrestrial resource extraction is vital to further space exploration deeper in the solar system.¹⁰

As the ability to harvest valuable resources from space becomes a reality, so will the potential for conflict, both terrestrially and in space. Many countries are taking an interest in space-resource harvesting. Absent a coherent global legal framework that

3. UN General Assembly, Resolution 1721 (XVI), International Co-operation in the Peaceful Uses of Outer Space, December 20, 1961, <https://www.unoosa.org/>.

4. National Security Council Meetings, 1962: No. 502, July 10, 1962, Papers of John F. Kennedy (JFK), Series 06: Meetings and Memoranda, JFK Presidential Library and Museum, Boston, MA, 5, <https://www.jfklibrary.org/>.

5. Ronald Reagan, "Address to the Nation on Defense and National Security," March 23, 1983, transcript, Ronald Reagan Presidential Library and Museum, <https://www.reaganlibrary.gov/>.

6. Cassandra Steer, "Global Commons, Cosmic Commons: Implications of Military and Security Uses of Outer Space," *Georgetown Journal of International Affairs* 18, no. 1 (Winter/Spring 2017): 11.

7. Gregory C. Allen, "Across Drones, AI, and Space, Commercial Tech Is Flexing Military Muscle in Ukraine," Center for Strategic and International Studies (CSIS), May 13, 2022, <https://www.csis.org>.

8. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies (Outer Space Treaty), December 19, 1966, UN Res 2222 (XXI), <https://digitallibrary.un.org/>.

9. Namrata Goswami, "China in Space: Ambitions and Possible Conflict," *Strategic Studies Quarterly* 12, no. 1 (Spring 2018): 75.

10. "2021 COPUOS Legal Subcommittee – U.S. on the Exploration, Exploitation, and Utilization of Space Resources," US Mission to International Organizations in Vienna, June 1, 2021, <https://vienna.usmission.gov/>.

establishes a rules-based approach to this problem, the potential for aggression remains an issue.¹¹

Terms

Joint publication 3-0, *Joint Campaigns and Operations*, defines deterrence as “the prevention of action by the existence of a credible threat of unacceptable counteraction and/or belief that the cost of action outweighs the perceived benefits.”¹² In the space domain, deterrence serves to prevent conflict and with defense secures free access, defined as the “freedom to operate in space.”¹³ The Outer Space Treaty of 1967 describes free access as “exploration . . . without discrimination of any kind, on a basis of equality and in accordance with international law.”¹⁴ Free access is the ability of any state to explore and operate in space as it sees fit while remaining within the constraints of international law.

The Evolution of Deterrence

In the 1950s, the development of nuclear weapons caused the concept of deterrence to evolve.¹⁵ Military strategist Bernard Brodie wrestled with the idea that new weapons delivery methods made defense almost impossible, noting the possibility of nuclear war becoming a total war of unlimited destruction due to inflamed passions.¹⁶ This led him to consider limited or peripheral wars managed by politics, designed to advance US interests while avoiding the threat of total nuclear war.

Brodie's theory centered on the idea of rationality: clearheaded state leaders acting rationally in response to outside stimuli. In other words, one could almost predict that a particular action, such as threatening a nuclear launch, would result in a desirable reaction, such as political concessions or the standing down of military forces. This idea of rationality is evident in how Kennedy managed the Cold War. His concepts of “mutual destruction” and “assured destruction” attempted to appeal to a rational, calculating opponent by positing both sides would be destroyed in a nuclear exchange,

11. Ian Christensen et al., “New Policies Needed to Advance Space Mining,” *Issues in Science and Technology* 35, No. 2 (Winter 2019): 30.

12. Chairman of the Joint Chiefs of Staff (CJCS), *Joint Campaigns and Operations*, Joint Publication 3-0 (Washington, DC: CJCS, 2022), GL-9.

13. US Space Command (USSPACECOM), *Never a Day without Space* (USSPACECOM Annual Report) (Washington, DC: USSPACECOM, 2021), 9, <https://media.defense.gov/>.

14. Outer Space Treaty.

15. Robert P. Haffa Jr., “The Future of Conventional Deterrence: Strategies for Great Power Competition,” *Strategic Studies Quarterly* 12, no. 4 (Winter 2018): 96, <https://www.airuniversity.af.edu/Portals/>.

16. Bernard Brodie, *Some Strategic Implications of the Nuclear Revolution* (Salt Lake City: Institute of International Studies at the University of Utah, 1959), 7, 10–11.

meaning that neither side would win.¹⁷ In theory, this realization would deter both opponents from starting a nuclear exchange.

In a 1960 speech, then-Senator Kennedy referenced nuclear mutual destruction during his campaign to disarm nuclear states and prevent total war.¹⁸ Realizing that this goal was unattainable, Kennedy shifted to a policy of assured destruction, elaborated by Secretary of Defense Robert S. McNamara to mean “the United States would be able to destroy in retaliation 20 to 25 percent of the Soviet Union’s population and 50 percent of its industrial capacity.”¹⁹ In essence, Kennedy saw deterrence as defensive, with diplomacy in the lead, working to prevent a nuclear exchange through active perception management.

In the years following the Cuban Missile Crisis, Brodie realized rationality in turn depends on context and perspective. He noted nuclear deterrence in particular is based on “human behavior under great emotional stress in circumstances that have never been experienced.”²⁰

Space war is still theoretical, as technology is still some years away from making it a reality. Yet context and perspective—understanding what drives the opponent, including domestic and international concerns, historical tensions, and emotional factors—are still relevant to deterring war in space.

Deterrence in Space

Scholarly thought on deterrence in space emerged in the 1980s. Reacting to the 1979 Strategic Arms Limitation Talks II Treaty, Colin Gray advocated against arms control treaties that would limit US space weapons development.²¹ Everett Dolman extended this thinking to argue for the United States to abandon the Outer Space Treaty and militarily seize control of low Earth orbit, using this to negotiate a new set of space rules.²²

More recently, some scholars have argued war in space is a foregone conclusion and provided ideas on how to win, while others have extended Dolman’s thinking to argue the United States must declassify its space capabilities in order to message a

17. John F. Kennedy, “Disarmament,” April 22, 1960, draft and notes of speech, JFK Papers, Series 12: Speeches and the Press, Reading Copies, 1958–1960, JFK Presidential Library and Museum, 4, <https://www.jfklibrary.org/>.

18. Kennedy; and “Robert S. McNamara,” Historical Office, Office of the Secretary of Defense, n. d., accessed November 12, 2022, <https://history.defense.gov/>.

19. “McNamara.”

20. Bernard Brodie, *Escalation and the Nuclear Option* (Santa Monica, CA: RAND Corporation, 1965), 11.

21. Colin S. Gray, *American Military Space Policy: Information Systems, Weapon Systems and Arms Control* (Cambridge, MA: Abt Books, 1982), 54.

22. Everett C. Dolman, “New Frontiers, Old Realities,” *Strategic Studies Quarterly* 6, no. 1 (Spring 2012): 94, <https://www.airuniversity.af.edu/Portals>.

credible threat to potential enemies to deter space war.²³ Together, these ideas have sought to deter space war by using military strength and weaponry to enact strategies of denial and punishment.²⁴ Indeed, these ideas make room for peaceful coexistence in space; however, the common theme among such views is cooperation from a position of real strength.

Conversely, a growing chorus of authors approach deterrence from the perspective of diplomacy. A number of thinkers advocate for using diplomacy to prevent space conflict—a decidedly less-militaristic approach to the problem. Some who study the issue with regard to China's growing space capabilities argue the United States must first increase its space presence and technological capacity to provide a position of credibility for diplomatic efforts.²⁵ Others take a diplomacy-first approach, advocating for a perception-management-and-cooperation approach to deterrence.²⁶ These approaches recognize the need to understand US adversaries while using a carrot-and-stick strategy empathetically.

Some diplomacy-focused scholars argue enhancing the US position in space requires a greater emphasis on alliances and commercial integration to increase the resiliency of US space systems while isolating aggressive space competitors. Overall, the common theme among this group is that diplomacy, both political and military, is required. Adversaries can impose their meaning on events if the other side is silent. In effect, diplomacy can prevent potentially catastrophic misunderstandings while allowing all to benefit from space, keeping with the ideals of the Outer Space Treaty.

To provide a theoretical framework for US Space Command leaders to develop a comprehensive deterrence strategy for space, this article considers two related questions: 1) How can deterrence be achieved in space? and 2) How can US Space Command develop this deterrent effect in a multipolar world? A study of Able Archer 83, the concluding exercise of a much longer NATO exercise designed to simulate a massive nuclear release against the Soviets, discussed in the context of Brodie's work and nuclear deterrence theory, will help answer these questions.²⁷ Able Archer 83 is crucial to an understanding of deterrence because it illustrates the action-reaction cycle in which opponents engage in increasingly aggressive behavior to maintain an

23. Paul S. Szymanski, "How to Win the Next Space War: An Assessment," Wild Blue Yonder, April 4, 2022, <https://www.airuniversity.af.edu/>; and Todd Harrison et al., *Escalation and Deterrence in the Second Space Age* (Washington, DC: CSIS, October 2017): 31, <https://csis-website-prod.s3.amazonaws.com/>.

24. Mazarr, *Understanding Deterrence*, 2.

25. Dean Cheng, "China's Military Role in Space," *Strategic Studies Quarterly* 6, no. 1 (Spring 2012): 74, <https://www.airuniversity.af.edu/Portals/>.

26. Joan Johnson-Freese, "A Space Mission Force for the Global Commons of Space," *SAIS Review of International Affairs* 36, no. 2 (Summer–Fall 2016): 11–12; and Steer, "Global Commons," 13–14.

27. Nathan Bennett Jones, *Able Archer 83: The Secret History of the NATO Exercise That Almost Triggered Nuclear War* (New York: New Press, 2016), 1.

edge.²⁸ The United States used threatening words and actions against the Soviets in an attempt to deter nuclear war. Instead, this approach nearly led to disaster.

Able Archer 83

The period under consideration for the Able Archer case study will be limited to 1980–83, coinciding with President Ronald Reagan's first term in office. Following a decade of détente, during which the United States negotiated with the USSR as equals, Reagan entered the White House determined to negotiate from a position of dominance to end the threat of communism.²⁹ Reagan had been a known entity to Soviet intelligence. In 1964, he delivered a speech to the Republican National Convention in which he remarked on the evils of socialism and decried those in America who would lead the nation “under the banners of Marx, Lenin, and Stalin.”³⁰ His rhetoric had only grown more robust and divisive in the subsequent decade. When Reagan was elected president in 1980, US-Soviet tensions began to rise.

In 1981, the Soviets launched Operation RYaN [*Raketno Yadernoye Napadenie*, translated as nuclear missile attack], a “worldwide intelligence operation” that required all intelligence agents to watch for a series of indicators that the United States was preparing for a nuclear attack.³¹ Fearing a US first strike, the Soviets wanted as much warning as possible to enable a counterstrike. The Soviets considered every piece of information, no matter how small, as vitally important.³² Two years later, the annual NATO exercise in Europe, code-named Able Archer, would test the limits of the Soviet intelligence effort.

The two purposes of the annual Able Archer exercise were to test the NATO command-and-control structure and exercise the decision-making process as conventional war with the Soviet transition to nuclear war.³³ The 1983 exercise came at the end of a series of exercises conducted by NATO under the umbrella name Autumn Forge 83, which included the REFORGER exercise that rehearsed the movement of troops from the United States to Germany.

Although the United States and NATO considered Able Archer 83 to be a routine exercise, it included such elements as “radio silences, the loading of warheads, reports of ‘nuclear strikes’ on open radio frequencies, and a countdown through all DEFCON

28. George W. Rathjens, “The Dynamics of the Arms Race,” *Scientific American* 220, no. 4 (April 1969): 19, <https://www.scientificamerican.com/>.

29. Marc Ambinder, *The Brink: President Reagan and the Nuclear War Scare of 1983* (New York: Simon & Schuster, 2018), 24.

30. Ronald Reagan, “A Time for Choosing,” October 27, 1964, speech transcript, Reagan Presidential Library and Museum, <https://www.reaganlibrary.gov>.

31. Ambinder, *Brink*, 60.

32. Ambinder, 120.

33. Jones, *Able Archer 83*, 25–26.

[defense-ready condition] phases to 'general alert.' ”³⁴ Operation RYaN led the Soviets to conclude the United States was preparing for a nuclear first strike.³⁵

Key events leading to Able Archer 83 that increased tensions began as early as 1981. To gain insight into Soviet intelligence and radar capabilities and cloud their view of US intentions, the US military conducted psychological operations using the Navy and the Air Force to penetrate Soviet-controlled areas. These incursions fed into Soviet paranoia because of fears that the United States was testing Soviet reaction times in preparation for a nuclear strike. Additionally, the US deployment of nuclear-capable Pershing II missiles in Europe increased Soviet fears of a US first strike due to the short flight time required to hit Russia.³⁶

Such fears contributed to a Russian pilot's shootdown of Korean Air Lines Flight 007 on September 1, 1983.³⁷ The US reaction was swift and accusatory. In a radio address on September 2, Reagan characterized the Soviet action as an act of terrorism and stated, “What can be the scope of legitimate and mutual discourse with a state whose values permit such atrocities?”³⁸ Later, on September 5, Reagan gave another speech, calling the incident a “crime against humanity.”³⁹ The November Able Archer 83 began against this backdrop of heightened tensions and loaded rhetoric. According to a report issued in 1990 by the president's Foreign Intelligence Advisory Board, the Soviet perception on the eve of the exercise was that “the international situation at present is white hot, thoroughly white hot.”⁴⁰

Conducted November 7–11, 1983, after the REFORGER exercise, Able Archer 83 was an “annual command post exercise to practice nuclear release procedures.”⁴¹ Two factors differentiated this exercise from those of previous years. The first was testing the communications architecture from the US European Command headquarters down to the firing units and rehearsing updated procedures “for releasing nuclear weaponry.”⁴² The second was a planned notional increase in the threat levels from “normal readiness, through the various alert phases, to a general alert.”⁴³

34. Jones, 26.

35. Jones, 26.

36. President's Foreign Intelligence Advisory Board, “The Soviet ‘War Scare,’” February 15, 1990, National Security Archive, 62, <https://nsarchive.gwu.edu/>.

37. Paul Dibb, *The Nuclear War Scare of 1983: How Serious Was It?* (Barton, Australia: Australian Strategic Policy Institute, October 10, 2013), 4, <https://www.aspi.org.au/>.

38. Ronald Reagan, “Remarks to Reporters on the Soviet Attack on a Korean Civilian Airliner,” September 2, 1983, transcript, Reagan Presidential Library and Museum, <https://www.reaganlibrary.gov/>.

39. Ronald Reagan, “Address to the Nation on the Soviet Attack on a Korean Civilian Airliner,” September 5, 1983, transcript, Reagan Presidential Library and Museum, <https://www.reaganlibrary.gov/>.

40. Gregory Romanov (Politburo member), speech at the Kremlin, November 7, 1983, as qtd. in Advisory Board, “Soviet ‘War Scare,’” 69.

41. Advisory Board, 69.

42. Advisory Board, 70.

43. Advisory Board, 70.

Whether the Soviets actually feared a US nuclear strike under cover of the Able Archer 83 exercise remains questionable.⁴⁴ One historian argues the Soviets understood the exercise as a routine test command post exercise; however, their greatest fear was a miscalculation, not an intentional decision, that would lead to nuclear war. As noted above, Reagan used inflammatory rhetoric throughout his presidency when describing the Soviet Union.⁴⁵ As the historian contends, “Reagan’s words and deeds elevated fears of an accidental nuclear war in the Soviet Union.”⁴⁶

Diplomacy occurred during this tense period of the Cold War, but it was overshadowed by political rhetoric and undercut by the increased risk of tragic miscalculation. Although assessments differ about whether the United States and the Soviets were on the brink of nuclear war, there is ample evidence that the early 1980s featured much higher tensions than had occurred during the era of détente in the 1970s. The downing of Korean Air Lines Flight 007 is recognized as one of the more pivotal moments of such tensions felt during the early 1980s.⁴⁷

An analysis of these elements from the case study and the theories of Brodie and others can guide US Space Command efforts toward deterring aggression in space.

Deterrence in Space: Challenges

Resiliency: Absorbing Punishment

How can deterrence be achieved in space? In 1946, Brodie observed, “No adequate defense against the bomb exists, and the possibilities of its existence in the future are exceedingly remote.”⁴⁸ He determined one of the best historical defenses against missile weapons was the ability “to absorb punishment.”⁴⁹ Yet with the advent of atomic weapons, the ability of targets to absorb missile attacks and continue fighting was gone. Similarly, geostationary and mid-Earth space assets have been large, delicate single sources of failure.⁵⁰ A single strike could destroy an enemy’s capability until a new satellite could be launched. Brodie notes that strong defensive measures, openness to international security agreements, and alliances with non-nuclear states are the keys to preventing atomic war.⁵¹

44. Simon Miles, “The War Scare That Wasn’t: Able Archer 83 and the Myths of the Second Cold War,” *Journal of Cold War Studies* 22, no. 3 (Summer 2020): 86–89.

45. Miles, 92.

46. Miles, 111.

47. Miles, 113.

48. Bernard Brodie, “War in the Atomic Age,” in *The Absolute Weapon: Atomic Power and World Order*, ed. Bernard Brodie (New Haven, CT: Yale Institute of International Studies, 1946), 28.

49. Brodie, 29.

50. Rachel Zisk, “The National Defense Space Architecture (NDSA): An Explainer,” Space Development Agency, December 5, 2022. <https://www.sda.mil/>.

51. Bernard Brodie, “Implications for Military Policy,” in *The Absolute Weapon*, 62.

The development of renewable mesh networks such as Starlink and the National Defense Space Architecture (NDSA) has enabled resiliency in space-based communication, while technology has allowed for the rapid reconstitution of certain space assets. This resiliency renders the military element of surprise increasingly irrelevant, leading to a greater deterrent effect on potential enemies. The ability to absorb damage and with minimal loss of space-based functionality could lead an aggressor to decide not to attack because they would be unable to cause enough damage to make the effort worthwhile.⁵²

Status Quo: Nuclear Weapons and Space Militarization

Given the high-stakes nature of the Cold War, one could reasonably assume any action involving nuclear weapons might trigger a more significant conflict. Although war never happened, there were several instances of brinkmanship, with each side pushing the envelope and attempting to gain positional or political advantage. Neither side wanted nuclear war—and indeed, neither did the world at large—however, both sides postured forces and weapons in provocative ways to see how much they could get away with before instigating a response.

In this Cold War status quo of sorts, the use of nuclear weapons was implicitly understood as undesirable by the superpowers. Accordingly, both sides exercised restraint during tense situations to avoid using these weapons, even as they pushed the line to just below the threshold of this nuclear status quo.

A 2023 analysis of the motivations and ambitions of the United States, Russia, and China in space reveals all sides tend to explicitly state their desire to avoid militarizing space.⁵³ Yet maintaining this status quo has not precluded all three states from declaring space as a warfighting domain, developing ground-based space weapons, and using space to support terrestrial warfighting.⁵⁴ Meanwhile, other spacefaring nations and private companies continue contributing to a complex and evolving space environment, making the original United Nations principle of free access to space increasingly challenging to uphold.

Attribution and Proportionality

In addition to the problem of the status quo in space, two other challenges face US Space Command in deterring aggression in space: attribution and proportionality of response.⁵⁵ Attribution is the ability to identify the perpetrator of an attack positively and quickly. Yet space is a vast area with numerous actors launching many satellites.

52. James Clay Moltz, "The Changing Dynamics of Twenty-First-Century Space Power," *Journal of Strategic Security* 12, no. 1 (2019): 16.

53. Raphael S. Cohen et al., *Assessing the Prospects for Great Power Cooperation in the Global Commons* (Santa Monica, CA: RAND Corporation, 2023), 32, 33, 37.

54. Cohen et al., 32.

55. Kiseok Michael Kang, "Extended Space Deterrence: Providing Security Assurance in Space," *Journal of Strategic Security* 16, no. 2 (2023): 14.

Although an antisatellite missile may be easy to attribute, countries such as China have recognized the long-term effects of the resulting debris field and have switched to ground-based weapons such as lasers and jammers.⁵⁶ These weapons allow for the covert destruction of adversary satellites with minimal risk of attribution. Even as China publicly states its commitment to the Outer Space Treaty, it maintains the ability to control access to space through these weapons.

Likewise, proportionality is a key concern. Many adversary states have a limited space presence and are less reliant on space than the United States. Red lines based on mortal threats to humans in space are impractical because most objects in space are uncrewed. Therefore, committing forces in retaliation for an attack on a satellite is most likely not politically viable.⁵⁷ Also, retaliating against a state less reliant on space-based technology may fail to produce the desired deterrent effect.⁵⁸ With these concerns in mind, how can the command navigate the modern multipolar world, where each state has myriad unique problems and needs, to deter space aggression?

As Brodie developed his nuclear war theory, part of his analysis centered on the issue of aggressor versus defender. He found defenders have a much easier time deciding to engage in violence than aggressors.⁵⁹ This is partially because aggressors, to some extent, realize they are “disturbing the status quo in a way that could produce a war.”⁶⁰

Continuing this thought, he examined the idea of shooting first and whether it mattered in the context of a broader conflict. He determined it was a detail easily obscured and rendered irrelevant within the broader context.⁶¹ Indeed, if a belligerent used nuclear weapons as the first shot, some attribution would enter the history books. Yet would it matter if the state shooting first claimed it was in defense of its territory and won the subsequent conflict? Had Able Archer 83 ended in nuclear war, history would be far more concerned with the resulting massive destruction than with who shot first.

Space Deterrence: Recommendations

As mentioned earlier, much of Brodie’s analysis presupposed that the United States would interact with rational actors who were concerned with national survival and who were relatively predictable in their pursuit of that goal.⁶² Yet as the Russian conflict in Ukraine has demonstrated, rationality is relative. What appears logical to one nation may seem irrational to another.

56. Cohen et al., *Great Power Cooperation*, 35.

57. Kang, “Extended Space Deterrence,” 19.

58. Kang, 18.

59. Brodie, *Escalation*, 45.

60. Brodie, 45.

61. Brodie, 45–46.

62. Keith B. Payne, “The Great Divide in US Deterrence Thought,” *Strategic Studies Quarterly* 14, no. 2 (Summer 2020): 18, <https://www.airuniversity.af.edu/Portals/>.

Rationality is unique to a given situation and is based on context and perspective, as Brodie eventually concluded.⁶³ Certain elements from Brodie's nuclear deterrence theory—diplomacy, resiliency, and situational rationality—are essential for discussing space deterrence. Diplomacy that works toward security agreements is the ideal outcome. But remaining vulnerable to catastrophic attacks can allow the opponent to make a rational decision to engage in conflict.⁶⁴

While these might seem like disparate elements, US Space Command can leverage them into a cohesive deterrence strategy. This section will recommend two deterrence methods and two actions that the command can use to leverage the elements of nuclear theory in space. Satellites cannot withstand a missile strike, nonkinetic strikes can neutralize them for a period, and debris fields generated by missile strikes and nonfunctioning satellites would inhibit friendly and enemy satellites within a particular orbital path. Yet Space Command can turn these weaknesses into strengths.

Stratified Deterrence

Stratified deterrence is “a new deterrence construct which accounts for the changed world of the 21st Century” and which “addresses deterrence needs at each potential level of conflict.”⁶⁵ Conceptualized as a model for nuclear deterrence, when applied to space, stratified deterrence begins with diplomacy. In the United States, public diplomacy belongs to politicians. Yet the military can and does engage in diplomacy, defined as “military communication and relationship building with foreign publics and military audiences for the purpose of achieving a foreign policy objective.”⁶⁶ During Able Archer 83, diplomacy at all levels was focused on threatening the Soviets through military and other means. For a space deterrence strategy to work, however, military diplomacy must include the art of dissuasion by “offering reassurances and benefits that make a world without aggression more attractive.”⁶⁷

The next level of stratified deterrence features an array of kinetic and nonkinetic escalation options available to US Space Command. Scholars have proposed the special operations-cyber-space triad concept to meet the 2022 national defense strategy; however, organizational and operational doctrine currently limits this concept.⁶⁸ Yet

63. Payne, 32; Thucydides, *The Landmark Thucydides: A Comprehensive Guide to The Peloponnesian War*, ed. R. B. Strassler and trans. Richard Crawley (New York: Touchstone, 1998), 15; and Richard Ned Lebow, “Misconceptions in American Strategic Assessment,” *Political Science Quarterly* 97, no. 2 (Summer 1982): 197.

64. Everett C. Dolman, “Space is a Warfighting Domain,” *Æther: A Journal of Strategic Airpower and Spacepower* 1, no. 1 (Spring 2022): 89, <https://www.airuniversity.af.edu/Portals/>.

65. Brent J. Talbot, “Getting Deterrence Right,” *Journal of Strategic Security* 13, no. 1 (2020): 34, 27.

66. Matthew Wallin, *Military Public Diplomacy: How the Military Influences Foreign Audiences* (Washington, DC: American Security Project, 2015), 1, <https://www.jstor.org/>.

67. Mazarr, *Understanding Deterrence*, 5.

68. Will Beaurpere and Ned Marsh, “Space, Cyber, and Special Operations: An Influence Triad for Global Campaigning,” Modern War Institute, September 6, 2022, <https://mwi.westpoint.edu/>.

there is still an opportunity for the command to leverage military alliances and cross-domain organizations to maintain escalation options.

Through ongoing military diplomacy, Space Command can quickly verify reports of adversary space actions to determine true intent.⁶⁹ With this information, the command can develop contingency plans to use cyber assets to attack an adversary's critical functions or deploy a Special Forces team against a ground space-support node. US Space Command can also use military alliances with friendly states to put pressure on an adversary from multiple sources.⁷⁰ This pressure could include suspending military training opportunities, withholding critical information, or denying support to continued space operations.

The final layer advocates "escalation dominance."⁷¹ Using the triad mentioned above, Space Command can deter emerging space actors from aggression by threatening their fledgling space systems with various responses. The key is to position assets so that a nation contemplating an attack knows it will receive a swift response. Yet "deterrence by punishment" must be combined with ongoing dissuasion to enable a stable and peaceful space environment.⁷² In short, the command must offer an array of carrots in addition to sticks, assuring continued access to and benefit from space as long as the space actor engages in responsible behavior.⁷³

Dissuasion Deterrence

Dissuasion deterrence is a carrot-and-stick approach that seeks to "prevent an action by including steps to make an action unnecessary—including offering concessions or reassurances."⁷⁴ Threats of punishment are still part of this strategy, but they must be combined with an offer of benefits. One way to implement this form of deterrence is by building consensus on a space traffic management (STM) plan that includes both commercial and military spacecraft. A growing number of academics and commercial entities see the need for a viable international STM framework.⁷⁵ Additionally, US Space Command can work with the academic and commercial entities working on STM and space law doctrine to provide a military voice, ensuring national defense remains a priority.⁷⁶

69. Joan Johnson-Freese, "China's Space Ambitions: It's Not All about the U.S.," *Georgetown Journal of International Affairs* 15, no. 1 (Winter/Spring 2014): 143–44.

70. Moltz, "Changing Dynamics," 31.

71. Talbot, "Getting Deterrence Right," 31.

72. Mazarr, *Understanding Deterrence*, 2.

73. Johnson-Freese, "Space Mission Force," 11.

74. Mazaar, *Understanding Deterrence*, 5.

75. See for example Brian G. Chow, "Space Traffic Management in the New Space Age," *Strategic Studies Quarterly* 14, no. 4 (Winter 2020): 77–78, <https://www.airuniversity.af.edu/>; and Bruce McClintock et al., "The Time for International Space Traffic Management Is Now," RB-A1949-1 (Santa Monica, CA: RAND Corporation, 2023): 3–4, <https://www.rand.org/>.

76. Steer, "Global Commons," 14.

Through military diplomacy and building alliances, the command can also offer access to space situational awareness information, ensuring the safety of Ally and partner nations' space assets. This access can also be suspended or used as leverage to deter nonkinetic attacks. By building habitual relationships with spacefaring governments, the command can continue to reiterate the risk posed by acting irresponsibly in space, pressure potential attackers, and keep access to space open to all by marginalizing those who would compromise it.

The Able Archer 83 case study exemplifies the key role diplomacy plays in any deterrence strategy. An analysis of Able Archer 83 shows that one of the factors leading to heightened tensions was Soviet perceptions of US intentions.⁷⁷ Troop movements, nuclear launch rehearsals, overflights, and even Reagan's missile defense plan contributed to the Soviet perception of an imminent attack.⁷⁸ This perception changed in 1984 after Reagan learned how close the world had come to nuclear war and began diplomatic talks with his Soviet counterpart.⁷⁹

As US Space Command works toward STM and improved space domain awareness, it must balance the effort with diplomacy to prevent the perception of excluding competitors from space. Narratives should build on the Outer Space Treaty to envision a space traffic management plan that allows current nonspace-capable nations to enter space in the future. Commercial and academic partnerships must also include foreign entities to create a shared understanding of the end product.

Resilience

US Space Command can take two approaches to increase its space resilience. One is to invest in the production of small, inexpensive, military-owned satellites to build a renewable mesh network that does not have a single point of failure. In past years, efforts such as Blackjack have provided this capability.⁸⁰ The goal is to secure the command's position in space, enabling a firm ground for diplomacy and providing a deterrent effect against attributable antisatellite attacks. The second approach leverages commercial satellite constellations and services to provide needed capabilities to other warfighting domains. By integrating "military, commercial, civil, and possibly allied networks" to create a layered and survivable system, Space Command can build a high level of resilience and maintain space superiority.⁸¹

77. "The Soviet Side of the 1983 War Scare," November 5, 2018, National Security Archives, <https://nsarchive.gwu.edu/>.

78. Jones, *Able Archer* 83, 9.

79. Barbara Farnham, "Reagan and the Gorbachev Revolution: Perceiving the End of Threat," *Political Science Quarterly* 116, no. 2 (Summer 2001): 232.

80. Jon Harper, "DARPA Set to Deliver New Space Capabilities," *National Defense* 105, no. 801 (August 2020): 32, <https://www.jstor.org/>.

81. Makena Young and Akhil Thadani, *Low Orbit, High Stakes: All-in on the LEO Broadband Competition* (Washington, DC: CSIS Aerospace Security Program, December 2022), 15, <https://aerospace.csis.org/>.

Control of Space

In terms of space, attribution is difficult, red lines are almost impossible to establish, and the question of proportional response is tricky. Given these conditions, one of the first steps the command must take to create a deterrent effect is to seize control of space.⁸² This does not mean weaponizing space. Instead, US Space Command must embrace its role as the military leader in space and act decisively to negotiate rules and norms with Allies, partners, competitors, public entities, and private companies. This may include agreeing to measures limiting US capabilities, such as when Vice President Kamala Harris announced the end of US antisatellite weapons testing.

The issue of self-limiting leads to an important question that Brodie posed in 1965: “What did we do to make them think we would let them get away with it?”⁸³ The United States historically does not like to self-limit its options. Yet this also sets the standard by which others will follow. Although in the past, this has resulted in a negative action-reaction cycle, this could also work positively.⁸⁴ Able Archer 83 was the culminating event in an action-reaction cycle that stretched across Reagan’s first term. After Reagan became aware of the situation, he shifted to a positive cycle hallmarked by discussions with Soviet leader Mikhail Gorbachev, contributing to easing tensions.⁸⁵

US Space Command can continue building its network of alliances and friendly states by seizing control through leadership. Control can be bolstered by sharing information, increasing capabilities, and partnering with less technologically capable states. In doing so, the command can increasingly marginalize states that seek to weaponize space and leverage this network to attribute malign actions for quick response. As the final frontier becomes more congested and contested, US Space Command must lead the way to peacefully ensure the continued exploration and exploitation of space.

Conclusion

As shown, diplomacy at multiple levels is essential to a deterrence strategy. Adversary perception of military action during the lead-up to Able Archer 83 indicates that in the absence of active public diplomacy, the Soviets imposed meaning on the various US actions. This perception nearly led to nuclear war. Political diplomacy can be a highly charged endeavor, and active military diplomacy can help bridge the gap and reduce tensions, a role for which the command is uniquely situated.

A strategy of deterrence crafted by US Space Command should include stratified deterrence centered on three components: promoting active military diplomacy, building an array of response options, and maintaining escalation dominance. The command must also move beyond the single points of failure in its high-tech satellite array to embrace resilient networks of satellites that “can support their assigned mission

82. Dolman, “New Frontiers,” 88.

83. Brodie, *Escalation*, 20.

84. Rathjens, “Dynamics,” 19.

85. Ambinder, *Brink*, 278–79.

despite an adversary's purposeful interference."⁸⁶ These concepts will defend against potential attacks on critical space assets and negate the advantage of surprise.

Yet it is essential to remember that these parts should not be employed separately; instead, the command should use all three simultaneously to dissuade an adversary, providing a form of dissuasion deterrence to prevent aggression.⁸⁷

Deterrence in space is difficult. Maintaining a tenuous status quo, accurately attributing aggression, and properly gauging the proportionality of response present enormous challenges. The command should seize leadership control of space and work relentlessly to establish operating rules of space in coordination with Allies, partners, and competitors. Establishing the required alliances and agreements will help ensure aggression is rapidly identified, correctly attributed, and addressed under the terms of international law. As Brodie noted, "The control of escalation is an exercise in deterrence."⁸⁸ US Space Command must leverage its leadership role to build and maintain a deterrent effect against aggression.

Space appears endless, with room for an infinite number of objects. In reality, accessible and usable space is becoming congested, creating an atmosphere of competition that could quickly transition to kinetic conflict. An examination of nuclear deterrence theory and the unintended effects of military activity during Able Archer 83 help clarify the US role in contributing to destructive outcomes. Active diplomacy is a difficult endeavor but will lead to a positive and cooperative space environment that is far more enduring than one based on threats alone. **Æ**

86. James P. Finch and Shawn Steene, "Finding Space in Deterrence: Toward a General Framework for 'Space Deterrence,'" *Strategic Studies Quarterly* 5, no. 4 (Winter 2011): 15.

87. Mazarr, *Understanding Deterrence*, 4.

88. Brodie, *Escalation*, 49.

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