

THE FORTY-NINTH HARMON MEMORIAL LECTURE IN MILITARY HISTORY



**National Security: Space and the Course of Recent U.S.
History**

Roger D. Launius

United States Air Force Academy

2006

NATIONAL SECURITY: SPACE AND THE COURSE OF RECENT U.S. HISTORY

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The oldest and most prestigious lecture series at the Air Force Academy, the Harmon Memorial Lectures in Military History originated with Lieutenant General Hubert R. Harmon, the Academy's first superintendent (1954-1956) and a serious student of military history. General Harmon believed that history should play a vital role in the new Air Force Academy curriculum. Meeting with the History Department on one occasion, he described General George S. Patton, Jr.'s visit to the West Point library before departing for the North African campaign. In a flurry of activity Patton and the librarians combed the West Point holdings for historical works that might be useful to him in the coming months. Impressed by Patton's regard for history and personally convinced of history's great value, General Harmon believed that cadets should study the subject during each of their four years at the Academy.

General Harmon fell ill with cancer soon after launching the Air Force Academy at Lowry Air Force Base in Denver in 1954. He died in February 1957. He had completed a monumental task over the preceding decade as the chief planner for the new service academy and as its first superintendent. Because of his leadership and the tensions of the cold war, Congress strongly supported the development of a first-rate school and allotted generous appropriations to build and staff the institution.

The Academy's leadership felt greatly indebted to General Harmon and sought to honor his accomplishments in some way. The Department of History considered launching a lecture series to commemorate his efforts, and in 1959 the Harmon Memorial Lecture Series in Military History was born.

The Harmon Lecture series supports two goals: to encourage the interest in contemporary military history and to stimulate in cadets a lifelong interest in the study of the history of the military profession. The lectures are published and distributed to interested individuals and organizations throughout the world and many are used in courses at the Academy. In this way, we continue to honor the memory of General Harmon, who during his lifetime developed a keen interest in military history and greatly contributed to establishing the United States Air Force Academy.

LIEUTENANT GENERAL HUBERT REILLY HARMON

Lieutenant General Hubert R. Harmon was one of several distinguished Army officers to come from the Harmon family. His father graduated from the United States Military Academy in 1880 and later served as Commandant of Cadets at the Pennsylvania Military Academy. Two older brothers, Kenneth and Millard, were members of the West Point class of 1910 and 1912, respectively. The former served as Chief of the San Francisco Ordnance District during World War II; the latter reached flag rank and was lost over the Pacific during World War II while serving as Commander of the Pacific Area Army Air Forces. Hubert Harmon, born on April 3, 1882, in Chester, Pennsylvania, followed in their footsteps and graduated from the United States Military Academy in 1915. Dwight D. Eisenhower also graduated in this class, and nearly forty years later the two worked together to create the new United States Air Force Academy.

Harmon left West Point with a commission in the Coast Artillery Corps, but he was able to enter the new Army air branch the following year. He won his pilot's wings in 1917 at the Army flying school in San Diego. After several training assignments, he went to France in September 1918 as a pursuit pilot. Between World Wars I and II, Harmon, who was a Major during most of this time, was among that small group of Army air officers who urged Americans to develop a modern, strong air arm.

At the outbreak of World War II, Brigadier General Hubert Harmon was commanding the Gulf Coast Training Center at Randolph Field, Texas. In late 1942 he became a Major General and head of the 6th Air Force in the Caribbean. The following year General Harmon was appointed Deputy Commander for Air in the South Pacific under General Douglas MacArthur, and in January 1944 he assumed command of the 13th Air Force fighting in that theater. After the war General Harmon held several top positions with the Air Force and was promoted to Lieutenant General in 1948.

In December 1949 the Air Force established the Office of Special Assistant for Air Force Academy Matters and appointed General Harmon its head. For more than four years Harmon directed all efforts at securing legislative approval for a U.S. Air Force Academy, planned its building and operation, and served on two commissions that finally selected Colorado Springs, Colorado, as the site for the new institution. On August 14, 1954, he was appointed first Superintendent of the Air Force Academy.

Upon General Harmon's retirement on July 31, 1956, the Secretary of the Air Force presented him with his third Distinguished Service Medal for his work in planning and launching the new service academy and setting its high standards. In a moving, informal talk to the cadets before leaving the Academy, General Harmon told the young airmen that the most important requirements for success in their military careers are integrity and loyalty to subordinates and superiors. "Take your duties seriously, but not yourself," he told the cadets.

General Harmon passed away on February 22, 1957, just a few months before his son Kendrick graduated from West Point. The general's ashes were interred at the Air Force Academy's cemetery on September 2, 1958. On May 31, 1959, the Academy's new administration building was named Harmon Hall in his memory. In commemoration of the Academy's 50th Anniversary, the Secretary of the Air Force, Dr. James G. Roche, designated General Harmon "The Father of the Air Force Academy" on April 1, 2004.

ROGER D. LAUNIUS

Roger D. Launius is chair of the Division of Space History at the Smithsonian Institution's National Air and Space Museum in Washington, D.C. Between 1990 and 2002 he served as chief historian of the National Aeronautics and Space Administration. A graduate of Graceland College in Lamoni, Iowa, he received his Ph.D. from Louisiana State University, Baton Rouge, in 1982. He has written or edited more than twenty books on aerospace history, including *Critical Issues in the History of Spaceflight* (Washington, DC: NASA SP-2006-4702, 2006); *Space: A Journey to Our Future* (Tehabi Books, 2004); *Space Stations: Base Camps to the Stars* (Smithsonian Books, 2003), which received the AIAA's history manuscript prize; *Flight: A Celebration of 100 Years in Art and Literature* (Welcome Books, 2003); *Reconsidering a Century of Flight* (University of North Carolina Press, 2003); *To Reach the High Frontier: A History of U.S. Launch Vehicles* (University Press of Kentucky, 2002); *Imagining Space: Achievements, Possibilities, Projections, 1950-2050* (Chronicle Books, 2001); *Reconsidering Sputnik: Forty Years Since the Soviet Satellite* (Harwood Academic, 2000); *Innovation and the Development of Flight* (Texas A&M University Press, 1999); *Frontiers of Space Exploration* (Greenwood Press, 1998, rev. ed. 2004); *Spaceflight and the Myth of Presidential Leadership* (University of Illinois Press, 1997); and *NASA: A History of the U.S. Civil Space Program* (Krieger Publishing Co., 1994, rev. ed. 2001). He is frequently consulted by the electronic and print media for his views on space issues, and has been a guest commentator on National Public Radio, CNN, PBS, ABC, CBS, NBC, and others.

ROGER D. LAUNIUS

National Security: Space and the Course of Recent U.S. History

Introduction

Good evening ladies and gentlemen, officers and cadets of the U.S. Air Force Academy, distinguished guests, friends, senior historians, junior scholars, critics, and innocent bystanders; I thank you for the opportunity to present the Harmon Memorial Lecture this year. It is a distinct and most appreciated honor. As a newly minted doctor of philosophy in history in the fall of 1982 I first visited the Academy to participate in the History Department's Military History Symposium. There I enjoyed immensely the Harmon Memorial Lecture delivered that year by John Morton Blum, the Distinguished Yale University historian of American politics and society. He set a high standard in a remarkable lecture series that I can only hope to aspire to.

This evening I wish to discuss in broad contours the evolution of national security space policy throughout the first fifty years of the space age, and to offer some comments on the policy debate presently underway. While the discussion may revolve around current issues, I wish to consider, perhaps to reconsider, how an understanding of the "digested past" may inform this larger, complex, and at times shrill debate.¹

As a beginning point for discussion, let me suggest that the two primary users of space during the first years of the space age, the United States and the Soviet Union, fashioned a robust and flexible approach to dealing with an entirely new and potentially devastating theater for conflict. That policy allowed free access to space for all, fostered unfettered rights of overflight by any nation, prohibited the placing of weapons in space (although space was militarized almost at the beginning of the space age and is routinely used for a range of national security purposes), and barred nationalistic claims of sovereignty over celestial bodies. While the United States and the Soviet Union competed at every point of contact throughout the cold war these priorities did not receive serious challenge. Indeed, they served the needs of all sides quite well. As the Soviet Union declined and eventually collapsed at the end of the 1980s, however, a new dynamic situation arose. The strains on space policy, both as a result of a new set of circumstances and the departure from the scene of the cold warriors steeped in the *realpolitik* that had guided the nation for so many years, have been readily apparent for the last two decades. Although debates over space weaponization, preemption, and the maintenance of hegemonic U.S. status have been complex, polarizing, and sometimes strident, no appreciable alteration of national security space policy has been enacted as yet.

So how did we come to this point? What are the major issues of the debate, and how might historical knowledge inform that debate? Finally, how might we move beyond simplistic, either/or propositions to help fashion a usable perspective on current national security space issues from our vantage point of historical understanding?

¹ The issue of "digest past" is discussed in Marvin Goldwert, "Metahistory: Residues of the Past," *Journal of Unconventional History* 5 (Fall 1993): 22-28.

Space as a New Theater for National Security Operations

On the morning of September 8, 1944, the world changed in ways that happen only rarely. The events of that morning represented a paradigm shift, an overused but appropriate term in this instance, as an entirely new national security situation emerged. After an enormous investment by Hitler's Germany, more than a decade of research and development (R&D), the deaths of thousands of concentration camp laborers (with many more to come), and allied fears that led to an air strike on the R&D facility at Peenemünde, the V-2 changed the nature of warfare.² A liquid propellant missile rising 46 feet in height and weighing 27,000 pounds at launch, the V-2 (sometimes called the A-4) flew at speeds in excess of 3,500 miles per hour and delivered a 2,200 pound warhead 200 miles away. After some false starts, at 8:40 a.m. on Friday, September 8, 1944, the first V-2 of the rocket campaign lifted off toward Paris. It exploded at high altitude and never reached the allied lines around Paris, an indication of the experimental nature of this complex new technology. Two hours later, however, a second rocket struck the Paris suburb of Charentonneau à Maison-Alfort, killing six people and injuring 36 others. All of them were non-combatants. This was the first ballistic missile attack in history, and it signaled a new age of warfare in which billions of dollars would be expended to strike enemies with missiles as well as to detect, deter, and defend against ballistic missiles.³ By the end of the war 1,155 had been fired against England and another 1,675 had been launched against Antwerp and other continental targets. The guidance system for these missiles ensured that it had only a 50 percent chance of striking within 11 miles of its target, but the V-2s struck without warning and there was no defense against them.⁴

As the Allies learned during World War II, ballistic missiles represented a new and entirely different challenge than any other weapon ever developed. They struck seemingly from nowhere, without warning, and wreaked death and destruction on anything in its path. As one Londoner recalled:

On the morning of September 14, I was sitting in the kitchen eating my breakfast when there was a soft "pop" and all the windows shot open. I went into the hall and was aghast to see that the front door was hanging off and the frame was falling outwards. Then the silence ended; the air became dark with debris raining down and I could hear screams.... a row of houses in Dairsee Road had received a direct hit, killing seven people and injuring dozens.⁵

As Sir Philip Joubert de la Ferté, the French Air Chief Marshal, wrote, "V-2 was a different proposition altogether. Although strenuous efforts were made to devise methods whereby it could be intercepted and destroyed or the supplies stopped, in the end what the official history calls 'the drizzle of rockets' was only halted by the occupation of the territory from which they could be

² The standard work on the V-2 is Michael J. Neufeld, *The Rocket and the Reich: Peenemünde and the Coming of the Ballistic Missile Era* (New York: The Free Press, 1995).

³ T.D. Dungan, *V-2: A Combat History of the First Ballistic Missile* (Yardley, PA: Westholme, 2005), pp. 115-16.

⁴ Walter Dornberger, *V-2: The Nazi Rocket Weapon* (New York: Viking Press, 1954), p. 97.

⁵ Account by Joan Smith, in Bob Ogley, *Doodlebugs and Rockets: The Battle of the Flying Bombs* (Brasted Chart, UK: Froglets, 1992), p. 147.

launched.”⁶ Moreover, as became clear in the aftermath of the first detonation of nuclear weapons, it could become a doomsday weapons holding catastrophic consequences for all. When coupled with nuclear weapons, no question about it, ballistic missiles changed the course of history. All the literature on the post-cold war revolution in military affairs (RMA) notwithstanding, the combination of ballistic missiles with nuclear weapons truly did present the national security establishment with an entirely new set of challenges and opportunities, and fundamentally altered the strategic landscape.⁷

The V-2 launches represented only the first instance of the use of space for military purposes, but in the years since World War II space has emerged as an especially critical theater of war. Certainly, as soon as the rivalry with the Soviet Union had arisen as the critical national security concern in the latter 1940s, the U.S. military recognized that space represented the new high ground, and that they had to control it. Numerous defense officials referred to space as the high seas of the future. The nations that could exploit the potential benefits of this ultimate strategic high ground for military purposes would dominate the rest of the world, they noted. “Whoever has the capability to control space will likewise possess the capability to exert control of the surface of earth,” USAF chief of Staff Thomas D. White told reporters in the aftermath of the launch of Sputnik II in November 1957.⁸ Notwithstanding contrary perceptions, Air Force officers also believed that space should be their exclusive domain since it represented a natural extension of operations in the air. As Benjamin Lambeth remarked, this idea “has endured for so long in Air Force folklore that this mission area has been accepted by most airmen as an Air Force birthright almost from the start.”⁹

No less than General Hap Arnold recognized that the Air Force had to pursue space capabilities forcefully, and believed that those efforts might be derailed by the Air Force’s traditional mission and doctrine. Arnold foresaw a time when rocketry and spaceflight would dictate the outcome of international struggle. At the same time he complained that the Army Air Forces depended too much on “pilots, pilots, and more pilots.” He told Theodore von Kármán, “I see a manless Air Force...[that] is going to be built around scientists—around mechanically minded fellows.”¹⁰ Viewing space as essentially an extension of air operations, Arnold pressed for its incorporation into the mission of the Air Force.

Under the Department of Defense and its predecessor a series of important studies on the use of space systems for national security and other purposes pointed up the perceptions of

⁶ Sir Philip Joubert de la Ferté, *Rocket* (New York: Philosophical Library, 1957), p. 114.

⁷ Thierry Gongora and Harald von Riekhoff, eds., *Toward a Revolution in Military Affairs?: Defense and Security at the Dawn of the Twenty-First Century* (Westport, CT: Greenwood Press, 2000); Williamson Murray, “Thinking About Revolutions in Military Affairs,” *Joint Force Quarterly*, Summer 1997, pp. 69-76; Colin S. Gray, *Strategy for Chaos: Revolutions in Military Affairs and The Evidence of History* (London, UK: Frank Cass, 2004); John Arquilla and David F. Ronfeldt, eds., *In Athena’s Camp: Preparing for Conflict in the Information Age* (Santa Monica, CA: RAND Corporation, 1997).

⁸ Quoted in Mike Moore, “Space: The Military’s Ultimate High Ground,” *Foreign Service Journal*, April 2001, available on-line at <http://www.afsa.org/fsj/apr01/mooreapr01.cfm>, accessed 10/9/2006 1:28:12 PM.

⁹ Benjamin S. Lambeth, *Mastering the Ultimate High Ground: Next Steps in the Military Uses of Space* (Santa Monica, CA: RAND Corp, MR1649, 2003), p. 9

¹⁰ Quoted in G. Pascal Zachery, *Endless Frontier: Vannevar Bush, Engineer of the American Century* (New York: The Free Press, 1997), p. 228. See also Michael S. Sherry, *The Rise of American Air Power: The Creation of Armageddon* (New Haven, CT: Yale University Press, 1987), pp. 186-87; Michael H. Gorn, *The Universal Man: Theodore von Kármán’s Life in Aeronautics* (Washington, DC: Smithsonian Institution Press, 1992), p. 97.

Arnold and a few others. Perhaps the key one appeared in 1946 from the newly-established RAND Corporation on a *Preliminary Design of an Experimental World-Circling Spaceship*. This publication explored the viability of orbital satellites and outlined the technologies necessary for its success. Among its many observations, this one proved especially prescient: “A satellite vehicle with appropriate instrumentation can be expected to be one of the most potent scientific tools of the Twentieth Century. The achievement of a satellite craft would produce repercussions comparable to the explosion of the atomic bomb.”¹¹ In a paper published nine-months later, RAND’s James Lipp expanded on this idea: “Since mastery of the elements is a reliable index of material progress, the nation which first makes significant achievements in space travel will be acknowledged as the world leader in both military and scientific techniques. To visualize the impact on the world, one can imagine the consternation and admiration that would be felt here if the United States were to discover suddenly that some other nation had already put up a successful satellite.”¹²

This perspective is a classic application of what analysts often refer to as “soft power.” Coined by Harvard University professor Joseph Nye, the term gave a name to an alternative to threats and other forms of “hard power” in international relations aimed at co-opting or attracting potential adversaries to accomplish the desired ends.¹³ As Nye contends:

Soft power is the ability to get what you want by attracting and persuading others to adopt your goals. It differs from hard power, the ability to use the carrots and sticks of economic and military might to make others follow your will. Both hard and soft power are important ... but attraction is much cheaper than coercion, and an asset that needs to be nourished.¹⁴

In essence, spaceflight represented a form of soft power, the ability to influence other nations through intangibles such as an impressive show of space capability. It granted to the nation achieving it first, rightly as James Lipp forecast, an authenticity and gravitas not previously enjoyed among the world community.

At the same time, the explicitly military implications of the perception of space as the “high ground” of cold war competition gained credibility from the atomic holocaust literature of the era.¹⁵ In November 1945 Hap Arnold persuaded the editors of *Life* magazine to demonstrate

¹¹ Project RAND, Douglas Aircraft Company’s Engineering Division, *Preliminary Design of an Experimental World-Circling Spaceship* (SM-11827), May 2, 1946.

¹² Quoted in Virginia Campbell, “How RAND Invented the Postwar World: Satellites, Systems Analysis, Computing, the Internet—Almost all the Defining Features of the Information Age Were Shaped in Part at the RAND Corporation,” *Invention & Technology*, Summer 2004, pp. 50-59, quote from p. 53. An important historical article on the studies proposing orbital satellites is R. Cargill Hall, “Early U.S. Satellite Proposals,” *Technology and Culture* 4 (Fall 1961): 410-34.

¹³ The term was coined in Joseph S. Nye, *Bound to Lead: The Changing Nature of American Power* (New York: Basic Books, 1990). See also Joseph S. Nye, *Soft Power: The Means to Success in World Politics* (New York: PublicAffairs, 2004).

¹⁴ Joseph S. Nye, “Propaganda Isn’t the Way: Soft Power,” *The International Herald Tribune*, January 10, 2003.

¹⁵ See, “The A-Bomb’s Invisible Offspring,” *Collier’s*, August 9, 1947; “Power on Glory and Wings,” *Collier’s*, March 27, 1948; “Fear, War and the Bomb,” *New Republic*, November 29, 1948; “Defense Against Atom-Bomb Blitz? None Yet,” *Newsweek*, November 14, 1949. One of these includes a statement that then-Congressman John F. Kennedy was one of the few public figures concerned about the dangers of atomic attack.

his point of the importance of this “new high ground” by publishing a graphic article on “The 36-Hour War” in which ballistic missiles led to the deaths of millions of Americans. It described how an enemy annihilated all American cities with populations over 50,000. The *Life* article advocated careful preparation to withstand such an attack from space, and the development of offensive weapons to deter such an attack and to respond should the “unthinkable” take place. Several striking illustrations showed a shower of rockets descending on key U.S. cities, New York in ruins, and the New York Public Library’s two famous stone lions still in place while all around it suffered near total destruction. Even if the U.S. could win the war, as many as forty million Americans might die, Arnold warned.¹⁶

The next year science fiction writer Robert A. Heinlein went even further and warned *Collier’s* readers that “space travel can and will be the source of supreme military power over this planet.”¹⁷ The danger of surprise attacks had been burned into the national consciousness by the Japanese attack on Pearl Harbor and Heinlein emphasized the lack of warning that ballistic missile attacks made possible. In October 1951 Wernher von Braun proposed in the pages of *Popular Science* the building of a space station because “the nation which first owns such a bomb-dropping space station might be in a position virtually to control the earth.”¹⁸ In 1952 a popular conception of the U.S.-occupied space station showed it as a platform from which to observe the Soviet Union and the rest of the globe in the interest of national security. As the editors of *Collier’s* magazine editorialized, in the cold war a space station would become critical to the security of the nation. The editors wrote that “the U.S. must immediately embark on a long-range development program to secure for the West ‘space superiority.’ If we do not, somebody else will...A ruthless foe established on a space station could actually subjugate the peoples of the world.”¹⁹

Space superiority and the “new high ground” argument became especially important in the aftermath of the crisis precipitated by Sputnik during the winter of 1957-1958. For example, Senate Majority Leader Lyndon B. Johnson, Democrat-Texas, recalled of the Soviet launch, “Now, somehow, in some new way, the sky seemed almost alien. I also remember the profound shock of realizing that it might be possible for another nation to achieve technological superiority over this great country of ours.”²⁰ One of Johnson’s aides, George E. Reedy, summarized the feelings of many Americans: “the simple fact is that we can no longer consider the Russians to be behind us in technology. It took them four years to catch up to our atomic bomb and nine months to catch up to our hydrogen bomb. Now we are trying to catch up to their satellite.” Then Senator John F. Kennedy agreed during the 1960 presidential campaign that “if the Soviets control space they can control earth, as in past centuries the nation that controlled the seas dominated the continents.”²¹

¹⁶ “The 36-Hour War: Arnold Report Hints at the Catastrophe of the Next Great Conflict,” *Life*, November 19, 1945, pp. 27-35.

¹⁷ “The A-Bomb’s Invisible Offspring,” *Collier’s*, August 9, 1947.

¹⁸ “Giant Doughnut is Proposed as Space Station,” *Popular Science*, October 1951, pp. 120-21. see also Michael J. Neufeld, “‘Space Superiority’: Wernher von Braun’s Campaign for a Nuclear-Armed Space Station, 1946–1956,” *Space Policy* 22 (February 2006): 52-62.

¹⁹ “What Are We Waiting For?” *Collier’s*, March 22, 1952, p. 23.

²⁰ Lyndon B. Johnson, *The Vantage Point: Perspectives of the Presidency, 1963-1969* (New York: Holt, Rinehart, and Winston, 1971), p. 272.

²¹ Speeches of Lyndon B. Johnson, Tyler, TX, October 18, 1957, and Austin, TX, October 19, 1957, both in Statements file, box 22, Lyndon B. Johnson Library, Austin, TX; Lee D. Saegesser, “High Ground Advantage,”

In hyperbole befitting only a politician of LBJ's stature, he argued that "Control of space means control of the world. From space, the masters of infinity would have the power to control the earth's weather, to cause drought and flood, to change the tides and raise the levels of the sea, to divert the gulf stream and change temperate climates to frigid."²² In a slight variation of this argument, and only slightly less outrageous, Brigadier General Homer A. Boushey said in January 1958, "He who controls the moon, controls the Earth," and called for an American effort to build a missile base there.²³

The Evolution of National Security Space Policy

Perhaps little has changed since that time, in fact, it may be even more significant today than at the height of the cold war. As the recently released "U.S. National Space Policy" concluded: "In this new century, those who effectively utilize space will enjoy added prosperity and security and will hold a substantial advantage over those who do not. Freedom of action in space is as important to the United States as air power and sea power. In order to increase knowledge, discovery, economic prosperity, and to enhance the national security, the United States must have robust, effective, and efficient space capabilities." This is a statement of the obvious, but decisions emanating from it may have profound consequences. For example, the policy also states that

The United States considers space capabilities—including the ground and space segments and supporting links—vital to its national interests. Consistent with this policy, the United States will: preserve its rights, capabilities, and freedom of action in space; dissuade or deter others from either impeding those rights or developing capabilities intended to do so; take those actions necessary to protect its space capabilities; respond to interference; and deny, if necessary, adversaries the use of space capabilities hostile to U.S. national interests.²⁴

This position is not inconsistent with earlier policies, especially the 1996 space policy of the Clinton White House, except in a couple of significant areas. Taking "those actions necessary to protect its space capabilities" and denying adversaries "use of space capabilities" represents a more bellicose perspective on national security space operations than previous administrations. Several observers have already remarked that this new policy rejects any infringement on unilateral U.S. action in space. Of course, what those statements, and others like them, might mean in practice remains to be seen.²⁵

unpublished statement, NASA Historical Reference Collection, NASA History Division, NASA Headquarters, Washington, DC; John F. Kennedy, "If the Soviets Control Space," *Missiles and Rockets*, October 10, 1960, p. 12.

²² This quote is available in many places. It appears in the opening statement of LBJ in U.S. Senate, *Hearings before the Preparedness Investigating Subcommittee of the Committee on Armed Services, 85th Cong., 1st and 2d Sess., November 25, 26, 27, December 13, 14, 16, and 17, 1957, January 10, 13, 15, 16, 17, 20, 21, and 23, 1958* (1958). See also "The Vision of a Greater America," *General Electric Forum* (July-September 1962): 7-9.

²³ "Expert Sees Moon As Rocket Base," *Washington Post*, January 29, 1958, p. 1.

²⁴ White House, Office of Science and Technology Policy, "U.S. National Space Policy," October 6, 2006, but backdated for implementation to August 31, 2006.

²⁵ Federation of American Scientists, "An Assertive New National Space Policy," October 10, 2006, available online at <http://www.fas.org/blog/secretcy/>, accessed 10/10/2006 1:27:38 PM.

Regardless of some relatively modest alterations over time, the national security space policy of the United States has been remarkably consistent for the first fifty years of the space age. Six basic principles enunciated in these various policy documents have served the nation well. First, the United States and the Soviet Union established in the 1950s and has maintained to the present “freedom of space,” ensuring free access to space and the unimpeded passage through space of all satellites and other vehicles regardless of national origin and for whatever purposes intended. Any interference with operational space systems became an infringement on sovereignty and could be construed as an act of war. Second, the parties agreed not to press claims of sovereignty over any part of space or its bodies. Third, the right to defend against attack was preserved and would be considered self-defense just as on the Earth. Fourth, this policy regime explicitly recognized all the various nations’ civil, military, and intelligence programs as legitimate. Fifth, ownership of space assets rested with the original entity placing them in space, and laws of salvage similar to that of the sea were extended to space. Finally, all parties agreed that no weapons of mass destruction were to be placed in space, enjoining this decision in the Outer Space Treaty of 1967.²⁶ The following discussion elaborates on a few of these issues, and indeed each is tied to the others in myriad, complex ways.

Each of these principles held important ramifications for the conduct of national security activities in space throughout the cold war. Each enabled greater stability in a highly volatile situation and helped preserve a tenuous peace. Few today appreciate the desperate nature of the cold war rivalry with the Soviet Union and the potential for any misstep to instigate nuclear confrontation. The rivals nearly stepped over the line during the Cuban missile crisis of 1962, but wiser diplomacy prevailed. The national security space regime made possible a less tense set of relations than would have been the case otherwise, but it was certainly tense enough even with those space capabilities. As historian R. Cargill Hall has concluded, this regime was “predicated on a maritime analog. In maritime law, the vessels of all nations possess the right to ply the high seas while adhering to the treaties and customs that detail the terms of navigation and accepted rules of the road.”²⁷ Collectively these principles offer some of the building blocks of an effective national security strategy. Overthrowing them after such a venerable career will prove a task not without difficulties.

The centerpiece of this national security space strategy rested on “freedom of space,” sometimes referred to as the “open skies” doctrine. While Eisenhower had pursued it aggressively previously, as Cargill Hall has explained, Sputnik helped establish the principle.²⁸ In that regard the Soviet’s did “us a good turn, unintentionally, in establishing the concept of freedom of international space,” Defense Secretary Neil McElroy stated to Eisenhower a few days after

²⁶ This represents a slightly different set of principles from those offered in R. Cargill Hall and Robert Butterworth, *Military Space and National Policy: Record and Interpretation* (Washington, DC: George C. Marshall Institute, 2006), p. 20.

²⁷ *Ibid.*, p. 31.

²⁸ On the establishment of overflight see R. Cargill Hall, “Origins of U.S. Space Policy: Eisenhower, Open Skies, and Freedom of Space,” in John M. Logsdon, gen. ed., *Exploring the Unknown: Selected Documents in the History of the U.S. Civil Space Program, Vol. I, Organizing for Exploration* (Washington, DC: NASA SP-4407, 1995), pp. 213-26; R. Cargill Hall, “The Eisenhower Administration and the Cold War: Framing American Astronautics to Serve National Security,” in Roger D. Launius, ed., *Organizing for the Use of Space: Historical Perspectives on a Persistent Issue* (San Diego, CA: Univelt, Inc., 1995), pp. 42-61. See also Dwayne A. Day, John M Logsdon, and Brian Latell, eds., *Eye in the Sky* (Washington, DC: Smithsonian Institution Press, 1998).

Sputnik's launch.²⁹ This made possible the development of reconnaissance satellites and their use throughout the cold war to ascertain what the Soviet Union was doing with its strategic forces. The same was true for the Soviet Union's reconnaissance satellites overflying the U.S. This enabled both sides to make decisions based on timely, accurate information. Lyndon Johnson did not overestimate the importance of this technology in 1967 when he said that the U.S. probably spent between \$35 and \$40 billion on it, but "If nothing else had come of it except the knowledge we've gained from space photography, it would be worth 10 times what the whole program has cost."³⁰

Indeed, an irony too great to ignore is that both of the superpowers locked in cold war struggle for more than a generation cooperated to ensure satellite reconnaissance remained inviolate despite everything else that divided them. The Kremlin, in addition to seeing the value of this technology in relation to the U.S., also found it critical in understanding what the Chinese were doing on their long border to the southeast.³¹ As then-Air Force Lieutenant Colonel Larry K. Grundhauser commented in *Aerospace Power Journal* in 1998, "over time the two superpowers established a 'practice of the parties' as the legal basis for legitimizing the use of satellites for reconnaissance—an unspoken and unrecorded 'gentleman's agreement' that respected the immunity of each other's reconnaissance satellites."³²

"Freedom of space," established as a practical reality by Sputnik, received official sanction through a variety of actions. For example, the United Nations General Assembly officially recognized "freedom of space" in 1961 as a part of a joint resolution.³³ It also gained formal status in the "Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space" in 1967. This treaty declared that space, "including the moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality."³⁴ This has remained the effective law of space since that time and no one has suggested that this right of overflight be overturned.

At the same time, a disavowal of ownership of any celestial body received early and enthusiastic support from all sides. On September 22, 1960, President Eisenhower proposed that the principles of the Antarctic Treaty be applied to outer space and celestial bodies, explicitly disavowing ownership and ensuring the right of free access to all. It also found expression in the Outer Space Treaty of 1967, which stated that "Outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use

²⁹ Quoted in Walter A. McDougall, ...*The Heavens and the Earth: A Political History of the Space Age* (New York: Basic Books, 1985), p. 134; an abridged version, less the reference to military satellites, appears in "Memorandum of a Conference, President's Office, White House, Washington, October 8, 1957, 8:30 a.m.," *Volume XI* [347], pp. 755-56.

³⁰ Quoted in *The NRO at the Crossroads: Report of the National Commission for the Review of the National Reconnaissance Office* (Washington, DC: National Reconnaissance Office, November 1, 2000), Appendix E, p. 120.

³¹ John Lewis Gaddis, *The Long Peace: Inquiries Into the History of the Cold War* (New York: Oxford University Press, 1987), 203–205.

³² Lt. Col. Larry K. Grundhauser, "Sentinels Rising: Commercial High-Resolution Satellite Imagery and Its Implications for US National Security," *Aerospace Power Journal* 12 (Winter 1998): 61-80, quote from p. 76. See also, Peter D. Zimmerman, "Remote-Sensing Satellites, Superpower Relations, and Public Diplomacy," in Michael Krepon et al., eds., *Commercial Observation Satellites and International Security* (London: Macmillan Press Ltd., 1990), p. 34.

³³ United Nations General Assembly Resolution 1721 (XVI), adopted on December 20, 1961.

³⁴ "Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies," Signed at Washington, London, Moscow, January 27, 1967, Article I, available on-line at U.S. State Department, <http://www.state.gov/t/ac/trt/5181.htm>, accessed 10/10/2006 9:03:36 AM.

or occupation, or by any other means.”³⁵ This ensured that when the astronauts reached the lunar surface in 1969 that they planted the American flag but omitted claiming the territory for the U.S. as had been routinely done during European exploration of the other continents beginning in the fifteenth century.

In addition to the Outer Space Treaty, in 1979 the Moon Treaty—which the United States is not a signatory to—extended the restriction on claiming celestial bodies. While neither explicitly forbade individual ownership, the lack of a legal regime that recognized the right of private property has dampened enthusiasm for private space activities. Alan Wasser, a prominent critic of this legal regime, commented in 1997: “The right to claim newly settled property has always provided the economic incentive for human expansion. (Would Europeans have ever settled America if they couldn’t claim ownership of the land they settled?) In this case, immediately re-saleable property deeds are the only possible ‘product’ that can be profitably brought back from space at current launch costs.”³⁶ Many commercial space advocates have argued that this has restrained the development of the Moon and other places in the solar system. Accordingly, during the last two decades of the twentieth century a persistent assault on the presumed prohibition against claiming celestial bodies has taken place with the intention of expanding the current space framework to ensure individual property rights.³⁷

The right to defend against attack explicitly emerged as a prerogative at the beginning of the space age. No one has seriously questioned the right of any nation to defend its space assets from attack. The manner in which that may be done, however, has been open to reinterpretation over the years. The United States pursued ground-based anti-satellites (ASAT) capabilities on two occasions, during the early 1960s with a modified Nike Zeus missile that could launch nuclear warheads to destroy satellites in low-Earth orbit. Second, the Department of Defense pursued Program 437 near the same time deploying nuclear Thor missiles at Johnston Island.³⁸ Another possibility emerged when an F-15-launched Miniature Homing Vehicle, tested on September 13, 1985, launched a two-stage kinetic kill vehicle that successfully homed in using an infrared targeting system on a target satellite and destroyed it on impact.³⁹ Even so, ASATs have not proven effective over time. Space policy analyst Dwayne A. Day has referred to them as “blunt arrows” in the larger arsenal of defensive space assets with a modest demonstrated capability, asserting that “the United States does not need to pursue a more active, provocative,

³⁵ Ibid., Article II.

³⁶ Alan Wasser, “How We Could Make Space Settlement Profitable,” *Space Times: Magazine of the American Astronautical Society* 36 (March-April 1997): 13-16, quote from pp. 13-14.

³⁷ See as examples, Haym Benaroya, “Economic and Technical Issues for Lunar Development,” *Journal of Aerospace Engineering* 11, No. 4 (1998): 111-18; Ezra J. Rienstien, “Owning Space,” *Northwestern International Journal of Law and Business* (Spring 1999): 59-98; F. G. von der Dunk, E. Back-Impallomeni, S. Hobe, and R. M. Ramirez de Arellano, “Surreal Estate: Addressing the Issue of ‘Immovable Property Rights on the Moon’,” *Space Policy* 20 (August 2004): 149-56; Lawrence A. Cooper, “Encouraging Space Exploration through a New Application of Space Property Rights,” *Space Policy* 19 (May 2003): 111-18.

³⁸ Paul B. Stares, *The Militarization of Space: U.S. Policy, 1945–1984* (Ithaca, N.Y.: Cornell University Press, 1985), p. 81; Curtis Peebles, *Battle for Space* (New York: Beaufort Books, 1983), pp. 83–92; Lt. Col. Bruce M. Deblois, “Space Sanctuary: A Viable National Strategy,” *Aerospace Power Journal* 12 (Winter 1998): 41-57.

³⁹ Lt. Col. Eric Nedergaard, “The F-15 ASAT—The Invitation to Struggle Accepted,” National War College Study, December 10, 1990, pp. 3-8, 10-12; Marcia S. Smith, “ASATs: Antisatellite Weapons Systems,” Congressional Research Service Issue Brief, December 7, 1989; Department of Defense, *Soviet Military Power 1990* (Washington, DC: Government Printing Office, September 1990), pp. 59-60; Curtis Peebles, *High Frontier: The U.S. Air Force and the Military Space Program* (Washington, D.C.: Air Force History and Museums Program, 1997), p. 67.

or expensive ASAT development than what it already has. The threat does not justify it, and rarely has.”⁴⁰ Other related efforts over the years, including missile defense initiatives which achieved both some success and political notoriety, have drawn similar pointed criticism and stalwart defense.⁴¹

The Question of Space Weaponization: Sanctuary, Stars Wars, or Something Else?

This discussion leads naturally to the central policy debate relative to national security space in the last twenty years: the weaponization of space. For nearly fifty years the world has engaged in activity in outer space for military scientific, and commercial purposes, but without placing weapons there or engaging in serious efforts to target objects in space. Working effectively during the cold war, since then the space arena has witnessed the entry of many more actors and a much broader array of vested interests than during the cold war, resulting in a variety of positions regarding future space activities. For example, humans have been in space more or less continuously since 1961 and since November 2000 have been permanently in place on the International Space Station, a peaceful, cooperative venture of sixteen nations that represents at more than \$100 billion the largest non-military cooperative effort in world history. At the same time, almost 700 spacecraft are operating in continuous Earth orbit, each serving a range of scientific, military, civilian, and commercial uses. And the hegemonic status of the United States and the Soviet Union/Russia has been demolished in the last twenty years. Over 60 new launches take place every year, and at least 35 nations had payloads in orbit in 2005.⁴²

In this increasingly chaotic environment with so many actors the United States remains the dominant player and wants to ensure that it does so indefinitely, hence the desire to protect national assets. As one policy analyst put it: “Given the U.S. reliance on its space systems for national security, would the United States (as some have argued) face a future ‘space Pearl Harbor’ if it did not first acquire the means to protect its space systems from deliberate harm?”⁴³ The answer to ensuring U.S. hegemony in space rests in no small part with the protection of the nation’s satellites and other space-based capabilities while denying that same capability to potential adversaries. There may be a range ways in which that might be accomplished, but one of the most important is the placement of systems in space to protect against attack. Depending on how one interprets these assets, it may represent the weaponization of space, thereby overturning a fifty-something year old decision not to do so.

Debate over this issue has been marked by two extreme positions, neither of which are representative of the majority of those debating the subject. The first is the “sanctuary” concept, which asserts that space “should not be used for military purposes,” as Malcolm Mowthorp has written:

⁴⁰ Dwayne A. Day, “Blunt Arrows: The Limited Utility of ASATs,” *Space Review*, available on-line at <http://www.thespacereview.com/article/388/1>, accessed 10/11/2006 8:40:19 AM.

⁴¹ See Donald R. Baucom, “The Rise and Fall of Brilliant Pebbles,” *Journal of Social, Political and Economic Studies* 29 (September 2004): 145-90; Donald R. Baucom, *The Origins of SDI: 1944-1983* (Lawrence, KA: University Press of Kansas, 1992); Frances Fitzgerald, *Way Out There in the Blue: Reagan, Star Wars, and the End of the Cold War* (New York: Simon and Schuster, 2000).

⁴² Nicholas Johnson, “Space Traffic Management: Concepts and Practices,” *Space Policy* 20 (2004): 79-85.

⁴³ Phillip J. Baines, “Prospects for “Non-Offensive” Defenses in Space,” *Center for Nonproliferation Studies Occasional Paper No. 12*, 2004, p. 31.

The intrinsic value space provides for national security is that satellites can be used to examine within the boundaries of states, since there is no prohibited over flight for satellites as there is for aircraft. This enables arms limitation treaties to be verified by satellites in space serving as a national technical means of treaty verification. Early warning satellites serve to strengthen strategic stability since they provide surveillance of missile launches which increases the survivability of retaliatory strategic forces. The sanctuary school sees the importance with which space systems provides these functions that space must be kept free from weapons, and antisatellite weapons must be prohibited, since they would threaten the space systems providing these capabilities.⁴⁴

Sanctuary advocates have argued that space weaponization by the United States would ensure an arms race in space in which all would ultimately lose. They have opposed it on moral grounds, but more importantly because of longstanding predispositions in favor of arms control, conflict resolution, and global collective stability. Any move beyond limited national security operations such as satellite reconnaissance, arms control verification, early warning, and communications represents for them a “slippery slope” to an arms race in space. As Lt. Col. Bruce M. DeBlois, wrote nearly a decade ago in a thoughtful essay in *Airpower Journal*: “Unlike the strategy for nuclear weapons, there exists no obvious strategy for employing space weapons that will enhance global stability. If the precedent of evading destabilizing situations is to continue—and that is compatible with a long history of U.S. foreign policy—one ought to avoid space-based weapons.”⁴⁵ Noting the longstanding successful policy put into place by Eisenhower in the 1950s, opponents of space weaponization have seen little positive in trying to alter this national security space environment.

This sanctuary doctrine draws sometimes snide rejoinders that the military has relied on space assets from the beginning of the space age and to suggest otherwise is naïve.⁴⁶ As international law professor Robert F. Turner opined about those opposing weaponization of space:

As a policy matter, particularly in light of the tremendous dependence of U.S. military forces today on space-based systems, anyone arguing that the United States should agree to a new legal regime that would leave our defensive assets at the mercy of hostile actions by any of a number of known or unknown potential adversaries—while giving us little of obvious value in return—must bear the burden of explaining why this is in America’s interest. Unfortunately, a campaign is now underway to pressure our government to acquiesce in just such a regime—driven at least in part by countries and groups that perceive “unchecked American military power” as the greatest threat to world peace in the foreseeable future.⁴⁷

⁴⁴ Malcolm Mowthorp, “US Military Space Policy, 1945–92,” *Space Policy* 18 (2002): 25-36, quote from p. 25.

⁴⁵ Lt. Col. Bruce M. DeBlois, “Space Sanctuary: A Viable National Strategy,” *Airpower Journal* 12 (Winter 1998): 41-57.

⁴⁶ Colin S. Gray, “The Military Uses of Space: Space is Not a Sanctuary,” *Survival* 25, No. 5 (1983): 197; Peter B. Teets, “National Security Space in the Twenty-First Century,” *Air and Space Power Journal* 18 (Summer 2005); Elliot G. Pulham, “Red Herrings and Barking Dogs,” *Spacewatch*, 5 (July 2006).

⁴⁷ Robert F. Turner, “International and National Security Law: The Campaign to ‘De-Weaponize’ Space: Why America Needs to Defend our Space Assets and our Right to Deploy a Space-Based ABM System,” *Engage* 5 (April 2004) as reprinted in Independent Working Group, *Missile Defense, the Space Relationship, & the Twenty-first*

Few anti-weaponizers, however, assert an absolute sanctuary in space; virtually everyone recognizes the legitimacy of military assets in space for non-lethal purposes. Turner's critique, therefore, presents a caricature of those opposed to the placement of weapons in space. Indeed, the misrepresentation of each side of the debate by the other may be one of the most interesting and unfortunate attributes of this policy arena, and another place for historians to trace the evolution of the policy.

The most radical conception on the other side, "star wars," essentially seeks to ensure American hegemonic status in space. It is a rereading of the "high ground" argument but one carried to its logical conclusion through weaponizing space and using the region as an American "lake" while denying others its use for military purposes. This is a position not unlike the longstanding policy of the United States toward the Western Hemisphere first enunciated in the Monroe Doctrine and reaffirmed in numerous policy statements since 1822 opposing European involvement in the region. The Commission to Assess United States National Security Space Management and Organization in 2001 concluded: "We know that every medium—air, land and sea—has seen conflict. Reality indicates that space will be no different. Given this virtual certainty, the United States must develop the means both to deter and to defend against hostile acts in and from space."⁴⁸ Everett C. Dolman of the Center for Advanced Airpower Studies at the USAF's Maxwell Air Force Base, Alabama, certainly the most eloquent advocate of the necessity of taking proactive measures to ensure American hegemony in space, has stated:

No nation relies on space more than the United States—none is even close—and its reliance grows daily. A widespread loss of space capabilities would prove disastrous for American military security and civilian welfare. America's economy would collapse, bringing the rest of the world down with it. Its military would be obliged to hunker down in a defensive crouch while it prepared to withdraw from dozens of then-untenable foreign deployments. To prevent such disasters from occurring, the United States military—in particular the United States Air Force—is charged with protecting space capabilities from harm and ensuring reliable space operations for the foreseeable future.⁴⁹

Space power theorists such as Dolman and others see no option but to place weapons in space to ensure the survivability of American space assets in any future conflict.

Advocates of space weaponization, sometimes derogatorily referred to as "Star Warriors," note that new capabilities, broader uses, and greater efficiencies have made the U.S. military far more dependent on space systems than even since the 1991 Persian Gulf war, to the extent that their loss might mean the difference between victory and defeat in a major war. Gen. Lance Lord spoke for many when he wrote in a recent article: "Space Superiority is the future of warfare. We cannot win a war without controlling the high ground, and the high ground is space." He argued that at every turn in history an opponent always sought to prohibit the "high ground" and such an

Century (n.p., 2007 report), pp. e37-e45, quote from p. e44.

⁴⁸ Donald H. Rumsfeld, et al., *Report of the Commission to Assess United States National Security Space Management and Organization* (Washington, DC: Government Printing Office, 2001), p. x.

⁴⁹ Everett C. Dolman, "U.S. Military Transformation and Weapons in Space," *SAIS Review* 26 (Winter-Spring 2006): 163-74, quote from p. 163. See also Everett C. Dolman, *Astropolitik: Classical Geopolitics in the Space Age* (London, UK: Frank Cass, 2002).

opponent must challenge the United States in space at some time, perhaps not far into the future.⁵⁰ The recent “illumination” of an American satellite by a Chinese system suggests that Lord may well be right and that a major challenge may loom just around the corner.⁵¹

Recent developments suggest that the United States is on course to overturn the common law of a ban on weapons in space. On December 13, 2001, for example, President George W. Bush announced that the United States was withdrawing from the 1972 Anti-Ballistic Missile (ABM) Treaty, officially did so in 2003. Abrogation of this treaty removed the only legal prohibition against the United States developing a space-based ABM system to protect itself. This administration has also committed to deploying a missile defense system that could include a space-based element. Even the conservative-leaning Cato Institute analysts concluded: “The current threat to U.S. satellites does not warrant the near-term weaponization of space.” Instead, they recommended making greater use of commercial resources and redundant or distributed systems. Commercial space should drive U.S. space policy. It “should strive to foster an environment that allows commercial space activity to grow and flourish rather than create a new area for costly military competition.”⁵² Also, lest anyone conclude that this is an entirely partisan issue, since 1995 the United States has been blocking a movement at the United Nations for an official prohibition of weapons in space despite its widespread support in other quarters.⁵³

The 2006 U.S. space policy provided further evidence of this change in the policy arena. It has drawn sharp criticism from a wide range of observers for opening the Pandora’s box of weapons in space and the belligerence of their use against American rivals. Bronwen Maddox, writing in the *London Times* on October 19, 2006, began by asserting that space was “no longer the final frontier but the 51st state of the United States. The new National Space Policy that President Bush has signed is comically proprietary in tone about the US’s right to control access to the rest of the solar system.” He noted that “The eye-catching declaration is that the US asserts the right to deny access to space to anyone ‘hostile to US interests,’ although it gives no basis for that right. It also rejects arms control talks that would limit future US actions in space.”⁵⁴ Former Vice President Al Gore even weighed in on it, declaring on October 19, 2006, that this new space policy:

has the potential, down the road, to create the [same] kind of fuzzy thinking and chaos in our efforts to exploit the space resource as the fuzzy thinking and chaos the Iraq policy has created in Iraq. It is a very serious mistake, in my opinion. We in the United States of America may claim that we alone can determine who goes into space and who doesn’t, what it’s used for and what it’s not used for, and we may claim it effectively as our own dominion to the exclusion, when we wish to exclude others, of all others. That’s hubristic.⁵⁵

⁵⁰ Gen. Lance W. Lord, “Space Superiority,” *High Frontier* 1 (Winter 2005): 4-5, quote from p. 4.

⁵¹ Michael Krepon and Michael Katz-Hyman, “The Responsibilities of Space Faring Nations,” *Defense News*, October 16, 2006.

⁵² Charles V. Peña and Edward L. Hudgins, “Should the United States ‘Weaponize’ Space? Military and Commercial Implications,” *Policy Analysis*, No. 427, Cato Institute, Washington, DC, March 18, 2002, pp. 1-24, quotes from pp. 16-17.

⁵³ United Nations Institute For Disarmament Research, “Outer Space and Global Security, Geneva - 26-27 November 2002, Conference Report,” pp. 2-3

⁵⁴ Bronwen Maddox, “America Wants it All—Life, the Universe and Everything,” *London Times*, October 19, 2006.

⁵⁵ “Gore Condemns Bush Space Policy,” *Popular Science*, October 20, 2006, available on-line at

And Michael Krepon and Michael Katz-Hymen of the Henry L. Stimson Center remarked of the current situation: “The central dilemma of US space policy—the essential and vulnerable nature of satellites used for national and economic security—is highlighted by recent developments. There is no exit from this dilemma. The more we seek to protect our satellites by the use of force in space, the more vulnerable our satellites will become if our own practices are emulated by others.”⁵⁶

In reality, there is little new in the 2006 U.S. space policy. As former one NASA JPL project manager put it: “What is new is that world opinion, energized by other unilateral statements and actions of this Administration, sees this statement as a realization of what people in the more belligerent parts of America’s space enterprise have wanted all along; namely an ability to control space and deny it to others.”⁵⁷ Regardless, the outcry from around the world has been strong and sustained. Persistent space critic Robert L. Park remarked: “The first goal of the 1996 policy was to: ‘Enhance knowledge of the Earth, the solar system and the universe.’ Now the first goal is to: ‘further U.S. national security, homeland security, and foreign policy objectives’.”⁵⁸

Despite recent developments, most of the space weaponization debate has confined itself to the middle part of the policy spectrum, but it has been both strident and sometimes uncharitable. Of course, it represents a fascinating subject for future study in the history of space policy, one that could occupy several researchers for a considerable period just sorting out the various perspectives. The simplistic “either/or” discussion of popular media fails to unpack the nuances of the debate and tends to obscure the truly important differences. In so doing, one must always distinguish between the militarization of space—force enhancement through communications, navigational, early warning, intelligence, and other types of satellites—and the deployment of weapons in space. This dichotomy tends to polarize the discussion in ways that misdirect it from the central issue: devising the best approach toward ensuring national and global security in space.

Rand military policy analyst Karl Mueller has suggested that there are at least six major perspectives on the weaponization debate that deserve consideration. These include the following:

http://popsci.typepad.com/popsci/2006/10/gore_space_poli.html, accessed 10/28/2006 11:24:35 AM.

⁵⁶ Krepon and Katz-Hyman, “The Responsibilities of Space Faring Nations.”

⁵⁷ Jim Burke, e-mail to beethakore@yahoo.co.uk, et al., “US Space Policy Debate,” October 19, 2006.

⁵⁸ Robert L. Park, “Empire: President Bush Approves a New National Space Policy,” *What's New*, October 20, 2006.

Pro-sanctuary perspectives

Idealists	Oppose all space (and typically other new) weapons, for reasons transcending defense policy considerations
Internationalists	Oppose space weapons because they would cause or contribute to general, arms race, and crisis instability
Nationalists	Seek to avoid space weaponization because it would reduce US power and/or security relative to potential adversaries

Pro-weaponization perspectives

Space racers	Seek to avoid rivals gaining military or political advantage by developing space weapons before they do
Space controllers	Favor development of space weapons when and insofar as they would usefully enhance US military capabilities
Space hegemonists	Favor intense development of US space weapons in order to make US military and political preponderance unassailable

He urged caution in undertaking a wholesale alteration of the national security space policy arena, suggesting that no one may predict with accuracy what would happen should any of the policy initiatives available be enacted as U.S. strategy.⁵⁹

So what are the priorities for national security space and issues for the development of space policy? As reported in an important Rand study of 1998, the United States has long pursued the following objectives in space:

- Preserving freedom of, access to, and use of space.
- Maintaining the U.S. economic, political, military, and technological position.
- Deterring/defeating threats to U.S. interests.
- Preventing the spread of weapons of mass destruction to space.
- Enhancing global partnerships with other space-faring nations.⁶⁰

Few would disagree either with those priorities or with the need to develop a policy that ensures them. Few would also disagree with the fact that this is where the current state of affairs rests, and that begs the question, how do we continue this regime?

It makes sense to recognize that the place the United States is in 2006 is the best place to be from the standpoint of national security space issues and therefore a continuation of this situation is the logical approach to dealing with the issue. The status quo for the U.S. is not a bad future, and therefore changing the national security space regime may be both unnecessary and potentially disastrous. The U.S. has pursued a three point program relative to space security issues, and this appears both prudent and in retrospect quite prescient. First, the U.S. has ensured that peer competitors did not step beyond the space technological capabilities that this nation possessed through a range of hard and soft power efforts, treaties and arms control measures, and

⁵⁹ Karl P. Mueller, "Totem and Taboo: Depolarizing the Space Weaponization Debate," *Astropolitics* 1 (Summer 2003): 4-28, quote from p. 9.

⁶⁰ Dana J. Johnson, Scott Pace, and C. Bryan Gabbard. *Space: Emerging Options for National Power* (Santa Monica, CA: RAND, 1998).

other initiatives. Second, the U.S. has long made clear that it would take harsh action should a competitor alter the national security regime in space. A long history of declaratory statements condemning actions viewed as belligerent in space and warning of appropriate repercussions has helped to create the current favorable situation for the United States. A continuation of those methodologies is appropriate and completely expected by the other nations of the globe. Third, the U.S. has pursued on the whole a reasonable program of research and development (R&D) to ensure that any rivals capabilities can be destroyed if necessary. This has taken the form of ASAT and ballistic missile defense projects, directed energy weapons development, targeting of ground infrastructure, and other objectives.

Weapons in space, therefore, might not be the only way, or even the best way, to protect American satellites. In the last few years the United States has aggressively pursued redundancy and hardening of potential space targets. Efforts to build small, inexpensive, easily replaced space assets have also offered an alternative. If a satellite were to be destroyed by a foe another replacement could immediately be placed in space. Ground-based ASATs, both kinetic energy and other types, are reasonable investments in future security, despite the technological stretch required. So are efforts to target from the ground rival space ground stations and other support systems. At the same time, if the U.S. has become over-dependent on space assets for achieving its national security objectives then perhaps the Department of Defense should also take action to reduce that dependence. There are a range of possibilities for delivering the force enhancements possible through space-based resources. For example, some communications or other capabilities could be offered via high-altitude balloons or UAVs. That does not resolve the vulnerabilities, but less dependence would obviate some of the concerns present among those charged with ensuring U.S. capability to conduct military operations.

Conclusion: So What?

So what does all of this mean? That is, of course, the central question of all historical studies. After a more than fifty-year gestation it is now apparent that space is central to the national security needs of the United States. That may well have been true in the 1950s, but it has become abundantly clear in the post-cold war era. The clarity of the cold war era, something commented on repeatedly since the demise of the Soviet Union, is now gone and is not likely to be replaced anytime in the foreseeable future. A new multinational great power situation exists with the United States clearly at the top of the pyramid but enjoying a lessening superiority with every year. How do the nation's leaders stem that tide to ensure the welfare of the U.S. for the future? There is a great deal at stake in terms of the access to and control over Earth's orbit. We cannot overstate the importance this situation. The next few years may prove decisive in terms of establishing a regime of space control that will have profound implications for terrestrial geopolitics.

There is reason to expect that in the next few years a full-blown policy debate will take place over the issue of future national security considerations for space. This is probably an overdue effort. In this debate the following items must be considered:

- The existence of competing interests between space-faring countries, emerging space countries, and non-space countries.
- The existence of potentially competing positions and strategies between public and private actors.

- The diffusion of new space technologies which will irrevocably change our common future space environment.⁶¹

On this subject John Logsdon appropriately concluded: “Space weaponization is not just a national security policy issue but a global concern.”⁶² Any U.S. decision in this arena will represent a challenge to all of the other nations of the world. As one Air Force officer involved in this issue concluded:

For the time being, this country can achieve space superiority without deploying weapons in space and without the use of weapons that create permanent effects on the commons of space. The United States should use space-based weapons only as a last resort but should not consider such use an unthinkable option....Certainly, one would prefer to control the future through peaceful agreements that are in the mutual interests of the parties involved. At the same time, the United States must prepare itself to deal with a wide spectrum of potential conflicts in space by developing and testing a number of military capabilities—up to and including space-based weapons, preferably those with temporary/reversible effects.⁶³

This may well be the most prudent short- and mid-term approach. It also may well be the consensus of those with the authority and responsibility to consider the space policy in the U.S., despite the impression given by many on the extremes advocating a major shift in policy.

Finally, what may historians add to this policy issue? Always, they provide a perspective that views what is taking place as part of larger continuum that both extends back in time and broadens through contextual consideration of what else is taking place. It seems obvious that the United States’ use of space during the cold war rested on a doctrine of sanctuary, a disallowance of weapons in space, and the right of all nations to use it without interference. From Eisenhower to Carter this was an inviolate approach. It only found reconsideration as the Soviet Union began to crumble after its invasion of Afghanistan in 1979, and with the arrival of the Reagan administration in January 1981 the emphasis shifted to a more aggressive stance vis à vis the Soviet Union. The Strategic Defense Initiative proved a tangible example of this change in philosophy. While it held profound implications for the sanctuary doctrine of national security space, the administration either failed or chose, depending on whom one chooses to believe, to alter the national security policy of the U.S. to allow for space-borne resources for ballistic missile defense. Since that time the debate between sanctuary and “star wars” has resonated through the Washington policy community. Space weaponization has been an especially thorny part of that discourse with no end in sight. It will remain so for the foreseeable future and its outcome will shape the policy of the United States for the next generation.

⁶¹ Xavier Pasco, *A European Approach to Space Security* (College Park, MD: Center for International and Security Studies at Maryland, July 2006), p. 39.

⁶² John M. Logsdon, “Finding a Path to Spacepower,” *Joint Forces Quarterly*, Winter 2002-2003, pp. 72- 77, quote from p. 75.

⁶³ John E. Hyten, “A Sea of Peace or a Theater of War? Dealing with the Inevitable Conflict in Space,” *Air & Space Power Journal* 16 (Fall 2002): 78–92.

PREVIOUS HARMON MEMORIAL LECTURES

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