



2009.03.02

Paul G. Gillespie and Grant T. Weller, ed., *Harnessing the Heavens: National Defense through Space*. Chicago, IL: Imprint Publications, 2008. Pp. xii. 235. ISBN 978-1-879176-45-4.

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Ably edited by Paul Gillespie and Grant Weller, this volume consists of fourteen papers presented at the twenty-first Military History Symposium at the U.S. Air Force Academy (USFA) in Colorado Springs in 2006.<sup>1</sup> The theme of this symposium was “national defense through space,” and the volume itself is dedicated “To those who defend America through space.” It has a strong military flavor and is all the more valuable for it, because it reveals aggressively one-sided American attitudes toward the militarization and weaponization of space.

For example, in the 1950s and 1960s, the U.S. military seriously considered building a base on the moon for nuclear-tipped missiles. In his contribution, “Beyond the Blue Horizon,” William E. Burrows cites Air Force General Homer A. Boushey’s remark in January 1958 that “the moon provides a retaliation base of unequalled advantage. If we had a base on the moon, the Soviets must launch an overwhelming nuclear attack toward the moon from Russia two to two-and-one-half days prior to attacking the continental U.S.—and such launchings could not escape detection—or Russia could attack the continental U.S. first, only inevitably to receive, from the moon—some 48 hours later—sure and massive destruction” (27). Boushey’s vision of the moon as the ultimate U.S. nuclear missile site to safeguard and even to effectuate the policy of mutually assured destruction (MAD), is only an extreme manifestation of the Air Force’s official policy aim to “dominate” the realm of space, “the ultimate high ground.” The belief that the United States had to arm the moon first, before the Soviets seized the lunar high ground, was driven “by the same combination of inadequate intelligence, paranoia, hubris, and consequent political over-reaction that got this country into the current quagmire in Iraq” (33), Burrows concludes.

Boushey may have been more bellicose than most, but consider this official proclamation—presented as an incontestable truism—by General Lance Lord, Commander of Air Force Space Command, in 2006: “Space Superiority is the future of warfare. We cannot win a war without controlling the high ground, and the high ground is space.” (15) One might add a coda to Lord’s remark, to the effect that one may also *lose* a war while controlling, and even dominating, the “high ground” of space.

Space is most assuredly of vital importance to the United States. As the contributors to this volume note, the United States relies on space for reconnaissance, surveillance, communication, intelligence, targeting, weather analysis, and force application more than any

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<sup>1</sup> The Air Force Academy has been holding military history symposia since 1967. Starting with the symposium on the Vietnam War in 1990, Imprint Publications has published the proceedings of these meetings <[www.miwsr.com/rd/0908.htm](http://www.miwsr.com/rd/0908.htm)>. Previous proceedings, published under the auspices of the Office of Air Force History, are available from the U.S. Government Printing Office <[www.miwsr.com/rd/0909.htm](http://www.miwsr.com/rd/0909.htm)>.

other nation. U.S. exploitation of space facilitates its military goal of “global reach, global power.” In military jargon, U.S. assets in space are essential force multipliers. But is space truly “the ultimate high ground”? The implied analogies and metaphors mislead: space is neither a ridge line to be seized and held, nor an “ocean” to be patrolled by starships. The ancient Greeks wisely thought of space as a unique realm, altogether different from the terrestrial sphere.

As a realm, space is implacably hostile to humans, making the cost of sending and maintaining humans there enormous, and ultimate returns on investment doubtful at best. As Alex Roland notes in a provocative paper that concludes this volume, efforts to create and station “space warriors” in earth orbit would be analogous to producing a new breed of ICBM silo-sitters, the difference being that such personnel “will cost ten times as much and ... be sitting ducks [for enemy attack] instead of secure moles” (221). The most sensible and cost-effective way to safeguard critical space assets is not by militarizing and weaponizing space, Roland argues, but by seeking political solutions with rivals like Russia and China.

Taking the polar opposite view is Everett C. Dolman, identified in this volume as “Air University’s first space theorist.”<sup>2</sup> For him, the United States must be prepared, physically and doctrinally, “to project violence from and into space.” Command of space means building weapons suited for space and its active exploitation, a position he supports by citing Alfred Thayer Mahan’s theories on control of the seas. He even argues that other nations’ fear “of a space-dominant American military will subside over time.” A hegemonic United States would be a pacific United States, Dolman suggests, leading to a world “less threatened by the specter of a future American empire” (124). One wonders whether Russia or China would be so sanguine as to cede complete space supremacy to an American hegemonic empire. But Dolman is unworried; instead, he recommends seizing the “high ground” of low Earth orbit while it is still (mostly) uncontested.

Yet, aggressive moves by the United States to dominate space will likely generate counter-moves by rivals and lead to an arms race in space. In his insightful Harmon Memorial Lecture that opens this volume, Roger Launius identifies a growing bellicosity in recent U.S. space policy.<sup>3</sup> Since 1995, he notes, 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” (15). Effective exploitation of space during the Cold War, Launius notes, “rested on a doctrine of sanctuary, a disallowance of weapons in space, and the right of all nations to use it [space] without interference. From Eisenhower to President Jimmy Carter, this was an inviolate approach” (19). But a more aggressive stance came with Ronald Reagan and the Strategic Defense Initiative (“Star Wars”) in the early 1980s, in the context of renewed Cold War competition.

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<sup>2</sup> We still await a Jomini, a Clausewitz, or a Douhet of military space theory. The best repository for current Air Force thinking on space is the *Air & Space Power Journal* <[www.miwsr.com/rd/0910.htm](http://www.miwsr.com/rd/0910.htm)>; its summer 2004 and 2006 issues are specifically devoted to space.

<sup>3</sup> The keynote address at these symposia is known as “The Harmon Memorial Lecture” (the Harmon is also given in years which lack symposia). The first thirty Harmon lectures are available in *The Harmon Memorial Lectures in Military History, 1959-1987*, ed. Harry R. Borowski (Washington, D.C.: Office of Air Force History, 1988). All extant Harmon lectures are also available on-line <[www.miwsr.com/rd/0911.htm](http://www.miwsr.com/rd/0911.htm)>

Yet, even with the collapse of the Soviet Union, the U.S. military continued to insist on options to “weaponize” space. The reasons are not explicitly explored in this volume but can be read between the lines. One is interservice, and even intraservice, rivalry in the context of Dwight D. Eisenhower’s Military-Industrial Complex. The Air Force has fought a long battle with the U.S. Navy and Army for control of space, a battle the self-styled “Aero-space Force” has largely won.<sup>4</sup> It involved the hyping of the space mission as uniquely efficacious for global power projection.

Even as this battle was being fought, another was in progress, and is arguably still being contested, within the Air Force itself, as shown in David Spires’s contribution. Space visionaries within the Air Force always played second fiddle, initially to Strategic Air Command (SAC) bomber pilots, and later to Air Combat Command (ACC) fighter pilots. To compensate, Air Force space specialists came to see themselves as a new cadre of Billy Mitchell’s, a visionary yet misunderstood minority at the mercy of a hidebound old-guard. Intra-service competition amplified by feelings of persecution bred hyper-aggressiveness and a concomitant tendency to over-sell an idea, in this case, the need to dominate and even to weaponize space for vital national interests.<sup>5</sup>

The American military’s need “to harness the heavens” is surely also a byproduct of a cultural fascination with technology and its putative virtues, such as greater precision and improved control, that fostered a god-like vision of the world, evident in Defense Department (DOD) efforts to gain “total information awareness” for commanders and, with deceptive clarity, in recent Hollywood movies like *Eagle Eye* and *Body of Lies*.<sup>6</sup> A more critical discussion of America’s love affair with technology and space, including its military’s almost psychosexual desire always to be on top—“dominating” the high ground—would have enhanced this volume.

Several other papers address important aspects of space history. Mark Erickson stresses the critical importance of the top secret National Reconnaissance Office (NRO), a quasi “third space agency” too often neglected compared to NASA and DOD efforts. Similarly, Rick Sturdevant highlights the many military functions performed by decidedly unflashy communication satellites.

P. Myles Smith recalls that the early Soviet space program had nuclear deterrence as its primary goal. Lacking long-range bombers and bases from which to strike at the United States, the Soviets pursued ICBMs, which almost coincidentally could also launch satellites into space. Even Nikita Khrushchev was taken aback at the initial impact of *Sputnik I* in 1957, although he speedily exploited the resulting crisis of confidence in the West, touting subsequent Soviet space feats in an ongoing propaganda war with the United States.<sup>7</sup>

Further examining Soviet space power is Asif Siddiqi, who notes that the Soviet Air Force lost its battle for control of the space program to the Soviet Strategic Rocket Forces. He concludes that today “Russia’s military space program is regrouping, modernizing, and

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<sup>4</sup> Within the Air Force, the idea of an “aerospace” force dates back to 1958, if not earlier.

<sup>5</sup> In the mid-1980s, I served in the Air Force Space Command, witnessing this attitude at first-hand. I also served at USAFA for six years and worked on three Military History symposia (1990, 1998, 2002).

<sup>6</sup> Dir. D.J. Caruso (DreamWorks Pictures 2008), dir. Ridley Scott (Warner Bros. 2008), respectively.

<sup>7</sup> See, for example, Robert A. Divine, *The Sputnik Challenge: Eisenhower’s Response to the Soviet Satellite* (NY: Oxford U Pr, 1993).

even expanding” (149), which may spur U.S. military efforts to maintain superiority. Turning to China, Dean Cheng examines its “two bombs, one satellite” agenda: to possess nuclear and thermonuclear weapons as well as an ICBM/space lift capacity. Interestingly, Chinese military publications are now parroting U.S. Air Force doctrine: one, published in 2004, states that “space dominance and information dominance are high-tech war’s foundation for victory, and are how we can obtain battlefield dominance. But information dominance cannot be separated from space dominance. We can say that seizing space dominance is the root for winning the informationalized war” (159).

In separate essays, Dwayne Day and Roy Houchin examine early Air Force space efforts, including the failure of the X-20A “Dyna-Soar” space plane, conceived as an orbital bomber. The Air Force, Day concludes, “never achieved its goal of owning its own manned spacecraft” (91), a failure in part attributable to its ambivalence about manned space flight in its overall mission, particularly during the SAC-dominated 1950s and 1960s.

Finally, in “Coping with Celebrity: Women as Astronauts and Heroes,” Amy Foster writes perceptively about the burdens and expectations shouldered by America’s first female astronauts: Anna Fisher, Shannon Lucid, Judy Resnik, Sally Ride, Rhea Seddon, and Kathy Sullivan. These women, Foster notes, wanted to be treated like their male counterparts and judged simply on their own merits, on whether they too had “the right stuff.” Avoiding openly feminist agendas, they nevertheless used their positions and fame to advance the cause of equal opportunity for women. Even while portraying themselves as “ordinary” astronauts, they became heroic role models to women across the country—and especially to girls aiming to follow their launch trajectory toward the heavens.

The fourteen papers collected in this volume provide ample stimulus for thought about the past, present, and future of U.S. endeavors in space, especially those directed along military lines. It is a truism that U.S. efforts to secure and exercise “global reach, global power” ultimately depend upon space power. Both today and in the future, that means those on the receiving end of American power will naturally see U.S. space dominance as less than benign—indeed, as something to be challenged and overthrown.

However, judging by the recent accidental collision of U.S. and Soviet satellites in space, and the cloud of dangerous debris it produced,<sup>8</sup> a war in space would be the worst possible scenario for U.S. national security. Since the military currently gains most from space-based assets, so it has most to lose from their disruption. Here again, we see the danger of thinking of space in terrestrial terms, as “the ultimate high ground.” If space becomes yet another battlefield in which nations play “king of the hill,” there will be no winners—and the United States will likely be the biggest loser.

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<sup>8</sup> The satellites collided on 10 February 2009, producing at least six hundred pieces of space shrapnel: Giles Whittell, “Cloud of Debris Girdling the Earth Could Threaten Hubble Telescope,” [London] *TimesOnline* (13 Feb 2009) <[www.miwsr.com/rd/0912.htm](http://www.miwsr.com/rd/0912.htm)>; also *Wikipedia*, s.v. “2009 Satellite Collision” <[www.miwsr.com/rd/0913.htm](http://www.miwsr.com/rd/0913.htm)>.