Space Weaponization: Aye or Nay?

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Reviewed by Brian Weeden

Harnessing the Heavens: National Defense Through Space
Edited by Paul G. Gillespie and Grant T. Weller,

The Politics of Space Security: Strategic Restraint and the Pursuit of National Interests
By James Clay Moltz,

The January 2007 anti-satellite test by China and the destruction of an ailing spy satellite by the United States using similar means a year later have brought renewed attention to the issue of space security. Two new books, Harnessing the Heavens edited by Paul Gillespie and Grant Weller and The Politics of Space Security by James Clay Moltz, make clear that military officials, strategists, and policy intellectuals have been arguing for half a century over whether and how space could and should be used in warfare and that the debate is far from resolved.

Harnessing the Heavens is a collection of essays presented at the U.S. Air Force Academy’s 21st Military History Symposium, held in 2006. Many of the top scholars in the field, including Roger Launius, William Burrows, Howard McCurdy, and David Spires, are featured on topics covering several of the important historical issues in the U.S., Soviet/Russian, and Chinese space programs, with a focus on military aspects.

What soon becomes clear is that in the past as well as today, the military has failed to understand the unique qualities of space as a battlefield, glossing over several major technical hurdles and assuming that tactics and strategies from other domains work equally well in space.

A good example of this, and perhaps the most fascinating essay in the compilation is by McCurdy, who recounts the history and obsession with military lunar bases since the 1940s and the U.S. military’s argument in particular for placing nuclear weapons on the moon. This argument saw lunar missiles as the ultimate deterrent against Soviet aggression but also warned that if the United States dallied and allowed the Soviets to seize it first, the consequences would be disastrous. This led to the U.S. Army’s Project Horizon, which came into conflict with the Air Force’s plans along the same lines. Much of this lunar military mania stemmed from applying flawed analogies of “high ground” on Earth to space and thus visualizing the moon as the ultimate high ground.

Although the 1967 Outer Space Treaty banned military installations on celestial bodies, including the moon, today’s military visions of space are nearly as flawed. Much of the military still sees space as only existing to support the war-fighter on the ground, land, and sea and considers doing “space for space reasons” a waste of money and resources. Large numbers of military leaders are still ignorant of the fundamental physics of outer space, which leads to serious discussion of fantasy ideas such as space planes dropping Marines into combat anywhere around the world.

Similarly, as Dwayne Day recalls, the military has long toyed with the idea of a military space plane. Day examines previously classified Air Force plans from their inception in 1958, before NASA and
Project Mercury, to when they went underground after President Dwight Eisenhower’s mandate that NASA should assume the manned spaceflight role. The program eventually led to two threads: plans for military space vehicles and military space stations, of which only certain aspects, Dyna-Soar and Manned Orbiting Laboratory, have previously been known. Although the military years ago realized that unmanned spacecraft could do a far better and cheaper job in orbit and abandoned serious plans in this arena, the concept of a military space plane has not gone away. At least once a decade, the idea is dusted off and given new funding and rhetoric, only to result years later in failure and wasted taxpayer funds.

Everett Dolman’s essay “Astropolitics and Astropolitik: Strategy and Space Deployment” lays out one of the best arguments I have seen for the weaponization of space by the U.S. military. Whatever your ideological predilection is, this essay is perhaps the most well written and convincingly structured of any in the collection. Dolman eloquently traces the evolution of modern military strategy from its roots with Clausewitz to modern warfare and then applies these lessons and logic to space. He argues that the direct consequence of these precepts is that the U.S. military must weaponize space by placing weapons for offensive deterrence in orbit.

Although it is difficult to find fault with the logic of Dolman’s argument, three unmentioned or unresolved factors need to be seriously considered before adopting such a position, putting aside the considerable questions of technical and economic feasibility. First, although Dolman’s conclusion that orbital weapons could prove to be an effective deterrent is correct, he never defines what exactly would they be deterring: “Evil” behavior by rogue states? Conventional military actions by states around the world? Soft-power expressions counter to U.S. national interests? To work effectively, there must be a clear understanding of which actions and of which players are being deterred, otherwise the deterrence is bound to be ineffective at best and counterproductive at worst. Is this space deterrence a replacement for or complementary to the existing nuclear deterrent?

A second factor to consider is what psychological effects such a space-to-ground offensive capability would have on U.S. leadership and the world in general, were the United States alone to possess it. Would having such a capability make it more or less likely that the U.S. president would use it or other military force aggressively? What would the psychological impact be on other world leaders knowing that they are under threat of attack from the United States at all times, without any warning and without much of a chance to defend themselves? Would this make unstable world leaders of rogue nations, that such a threat may be attempting to deter, more or less stable?

The final factor is perhaps the ultimate law of warfare: for every action, there is a reaction. This is the crux of the axiom “no plan survives first contact with the enemy.” Plans are developed against a static set of assumptions and facts, while an active opponent in the field is as intelligent and motivated as the attacker. As a result, occupying forces throughout history have been surprised by the ingenuity, resourcefulness, and effectiveness of a supposedly inferior enemy who refuses to submit. The same lessons should be applied to offensive space-to-ground weapons: They will not create an insurmountable advantage for the U.S. military; they will only spur other states and actors to find ways to counter such weapons or avoid their effects.

That leads to the biggest issue with the pro-space weapons movement. It is based around the ideal that a state can act unilaterally in the world and control the consequences to its advantage. Historically, that assumption has always been a false dream over the long run, and in a globalized world, it is quickly becoming false in the short run. Time after time in recent history, a state has acted unilaterally in its own self interest, and in each instance, its actions have caused unforeseen or undesired consequences. The recent Russian-Georgian conflict is a prime example. What originally looked like a clean and easy victory for Russia is now starting to show reverberations: the crash of its stock market, more European states backing U.S. ballistic missile defense, and most recently, the potential start of a Georgian insurgency in the contested regions.

In The Politics of Space Security, Moltz presents a concise yet brilliant analysis of the history of space security through the lens of the political environment that shaped it. Although fairly short compared to some of the other tomes in this field, Moltz’s book does a fantastic job of giving just enough detail to strengthen his arguments while still keeping the text flowing. The copious footnotes provide numerous rabbit holes down which readers will find themselves diving repeatedly.
Moltz divides the book into three sections. The first provides a general overview of the concepts involved in space security and the various regimes whose rule sets previous thinkers have attempted to apply to space security. The most important piece of this section is the discussion of the four main camps in the space security debate: space nationalism, technological determinism, social interactionism, and global institutionalism.

According to Moltz, space nationalists have their roots in political realism, great-power rivalry, and the lessons of the Cold War. This camp argues that conflict in space is inevitable and nations, particularly the United States, should take steps to secure their advantage in space through largely unilateral and military means.

The global institutionalists, on the other hand, are grounded in idealist political theory and see space as an arena for peace and international cooperation, with strong support for international legal regimes and bans on weaponization.

The other two schools take more nuanced, centrist positions. Technological determinists see technology, not politics, as the driving factor in space and foresee scientific cooperation and the theory of the public good as driving forces toward more cooperation and constraining conflict. Social interactionism agrees with many of the goals of global institutionalism but sees soft tools, such as rules of the road and voluntary efforts, driving actions in space instead of binding legal regimes.

This section also brings up one of the biggest issues in space security, the term “space weapons.” Simultaneously derided by conservatives as a hippy catchall for anything vaguely militaristic and loathed by liberals as tools of the imperialistic warmonger bent on world domination, the term seems to have whatever definition with which your particular ideological slant and background imbue it. Moltz starts his second chapter with a succinct but detailed discussion of this issue and proposes definition on the middle ground: “any system whose use destroys or damages objects in or from outer space.”

Most experts agree that space systems that could strike targets on the ground, such as space-based lasers or satellites equipped with metal rods for deorbiting, and space systems used to attack other satellites, such as co-orbital anti-satellites, are space weapons. Most also agree that ICBMs, which fly through space to reach their targets, are not. Beyond this, however, the various camps and parties can agree on little. Some believe that space-based and ground-based missile defense systems should be categorized as space weapons as they could easily be used against satellites. The proponents of such systems vehemently reject this classification. Others believe that any system that could possibly be used for military purposes should be classified as space weapons. The Soviet Union, for example, felt strongly that the U.S. space shuttle was a military vehicle designed to capture or destroy Soviet satellites.

As such, this is also possibly the only section of the book where readers may disagree with Moltz. Perhaps a better approach on the definition of space weapons is to avoid it altogether because there will never be a good definition for it. The term carries too much baggage, and the insistence on using it and defining it only leads to division and argument. The dual-use potential of almost everything in space means that anything, properly employed, can be used as a weapon with varying degrees of effectiveness. Rather, the debate needs to focus on what is really at the heart of the issue: actions. Those actions that could result in indiscriminate damage to the space environment or third parties, such as nuclear weapons detonations, broad spectrum radiofrequency jammers, and debris-generating kinetic impactors, should be considered for banishment.

The second section encompasses the bulk of the book and presents the 20th-century history of space security broken into four main eras: the U.S.-Soviet space race, the era of cooperative restraint, the ideological challenges posed to this restraint around the time of the Reagan administration, and finally the post-Cold War uncertainty that space security shared with many other security regimes. In each of these four eras, Moltz provides not only a chronological overview of the major events and decisions but also the geopolitical factors that influenced them. The third and final section presents recent events and decisions involved in shaping space security, particularly U.S.
policy under President George W. Bush. Conservatives see these changes as essential to protecting the space-borne foundations of U.S. military and economic power, while liberals and unfortunately much of the rest of the world see them as antagonistic and hegemonic. As Moltz and others demonstrate, the essential basis of the 2006 Bush space policy is no different than that of any president since Eisenhower. The core elements of peaceful use of outer space, separation of civil and military space, use of space to enhance U.S. economic and military power, and the right to freedom of action in space are unchanged. Rather, it is the tone and nuance of the policy that is different. The right to freedom of action by the United States is coupled with a blatant warning that the United States reserves the right to deter or prevent other states from impinging on U.S. capabilities in space. Put in the larger context of the Bush administration’s handling of world events, this creates the impression that U.S. space policy has somehow radically swung toward weaponization.

At the end, Moltz returns to the four ideological camps of space security and presents their approach to the future of space security. It is here that readers will find Moltz’s analysis to be absolutely correct when he states, “Despite the U.S. withdrawal from the ABM Treaty and the 2006 National Space Policy, no irreversible decisions have been made regarding the deployment of space defenses. Thus, both directions for space security—unilateral and collective—are very much in play.” Perhaps this is why the topic of space security has experienced its latest resurgence. Parties on either side of the issue understand that both directions are indeed very much in play. Each side also understands the consequences for its respective agendas and outlook on the world should the chosen direction be against its core beliefs.

Adopting a unilateral security strategy, as is the current U.S. approach, does have its advantages, but one of the fundamental disadvantages is lack of engagement and influence in the actions of others that one would have through a cooperative approach. A recent example that demonstrates this clearly was the decision by European states to create their own space surveillance system. When first announced a few years ago, the U.S. position was basically to ignore the issue. When the Europeans demonstrated that they were serious and starting working to actually fund such a system, suddenly the U.S. position changed. The United States started talking about space situational awareness and cooperation within the context of NATO to try to shift European surveillance activities to that forum, where the United States is a partner and has a seat at the table and thus can exert influence more readily.

This leads to the larger fundamental truth: the rest of the world is quickly developing suites of space capability and interest. Although most states will never individually develop equal capabilities to the United States in terms of space power, technology is rapidly changing the game, as it has in every other field. Every state has the same sovereign right as the United States to fully utilize space for its own socioeconomic development and pursue its own self interests. If every state pursues the same U.S. path of unilateral action, opposition of legal regimes prohibiting or limiting their access or use of space, and reservation of the right to deny adversaries the use of space capabilities hostile to their national interests, then ultimately conflict in space will happen. That conflict is likely to have lasting detrimental effects on the use of space by all states.

The debate over space weaponization should come down to three things: security, safety, and sustainability. Whatever the answer is, it should properly address all three of those elements. Space weapons, however defined, may serve some space security needs. If that comes at the cost of a reduction in the other two factors, clearly it is not a viable option. Likewise, certain proposals that have been made for international regimes and bans on weapons may in theory create safety, but if they ignore the security concerns of space-faring nations, they will ultimately be counterproductive. Only by factoring in all three considerations and working together can the world move forward with utilization of space for the peaceful benefit of all states.
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