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<b>14. ABSTRACT</b> The U.S. Air Force sometimes appears to have two identities. Not only is the U.S. Air Force arguably the best "air-breathing" air force in the world, it is also steward to the predominance of the nation's military space power. Because of the increased emphasis and importance of space to the warfighter, the U.S. is poised to put weapons in space to protect its satellite assets. Once space is weaponized, it is not beyond plausibility that the leap from defensive to offensive space-based weapons will occur. Within the U.S. Air Force itself, there are those who feel that the two mediums of air and space do not belong under the umbrella of a single service. Many in the space community feel that current space doctrine is stifled under the air-centric Air Force. Additionally, argument abounds that the Joint Force Air Component Commander (JFACC) should not have Air Force space assets under his control but that they should be under the control of a more space-minded (read additional) component commander. This paper addresses the possibility and unique advantages of offensive weapons in space. It further looks at current Air Force space doctrine and its applicability to offensive space-based weapons. Instead of finding a rift between "air" and "space" forces and doctrine, this paper finds that U.S. Air Force space doctrine is already well structured to support offensive space weapons and the JFACC who should and will be using them. The Air Force understands the unique characteristics of each medium but more importantly, understands these differences do not matter in the realm of force application.					
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NAVAL WAR COLLEGE  
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**AIR FORCE SPACE DOCTRINE:**  
**Is It Ready for Weapons in Space?**

By

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A paper submitted to the faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College, the Department of the Air Force, or the Department of the Navy.

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17 May 2005

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## **Abstract**

The U.S. Air Force sometimes appears to have two identities. Not only is the U.S. Air Force arguably the best “air-breathing” air force in the world, it is also steward to the predominance of the nation’s military space power.

Because of the increased emphasis and importance of space to the warfighter, the U.S. is poised to put weapons in space to protect its satellite assets. Once space is weaponized, it is not beyond plausibility that the leap from defensive to offensive space-based weapons will occur.

Within the U.S. Air Force itself, there are those who feel that the two mediums of air and space do not belong under the umbrella of a single service. Many in the space community feel that current space doctrine is stifled under the air-centric Air Force. Additionally, argument abounds that the Joint Force Air Component Commander (JFACC) should not have Air Force space assets under his control but that they should be under the control of a more space-minded (read additional) component commander.

This paper addresses the possibility and unique advantages of offensive weapons in space. It further looks at current Air Force space doctrine and its applicability to offensive space-based weapons. Instead of finding a rift between “air” and “space” forces and doctrine, this paper finds that U.S. Air Force space doctrine is already well structured to support offensive space weapons and the JFACC who should and will be using them. The Air Force understands the unique characteristics of each medium but more importantly, understands these differences do not matter in the realm of force application.

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## INTRODUCTION

As the list of nations with the ability to use space grows, so do our concerns about maintaining unfettered access to space. As space-based assets become increasingly important to the warfighter, so does the importance of protecting them and ourselves from attack. In doing so, we might very well weaponize space and even make the leap from defensive weapons to offensive weapons in space. If and when this occurs, current Air Force space doctrine will not need a complete overhaul. Offensive weapons in space will be just another tool for the combatant commander as long as he remains concerned about the effects he is trying to achieve and not the medium in which those tools are used.

During Operation DESERT STORM the average circular error probable (CEP) of an F-16 dropping a 2,000-pound unguided bomb was 200 feet.<sup>1</sup> Bombing accuracy with unguided “dumb” munitions was limited by pilot skill, quality of available imagery, and especially weather. Much has improved in the 14 years since DESERT STORM. Our ability to employ weapons from greater standoff ranges and in any weather owes a great deal to the existence of space-based assets. A Joint Direct Attack Munition (JDAM), steered to its target by signals from the Global Positioning System (GPS), has a CEP of less than 40 feet.<sup>2</sup> Space support to the warfighter continues to improve dramatically, making it much easier to be increasingly lethal. Joint Publication 3-14, Joint Doctrine for Space Operations, states that “space capabilities have proven to be a significant force multiplier when integrated into joint operations.”<sup>3</sup> Currently a force multiplier and a support asset, the use of space lends itself to

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<sup>1</sup> Edward C. Mann III, Thunder and Lightning: Desert Storm and the Airpower Debates (Maxwell Air Force Base, AL: AU Press, April 1995), 107.

<sup>2</sup> Navy, “Joint Direct Attack Munition (JDAM).” U.S. Navy Fact File. 24 October 2004. <<http://www.chinfo.navy.mil/navpalib/factfile/weapons/wep-jdam.html>> [7 May 2005].

<sup>3</sup> Joint Chiefs of Staff, Joint Doctrine for Space Operations, Joint Pub 3-14 (Washington, DC: 9 August 2002), vii.

the enhancement of our land, naval, and air forces. What happens, though, when we develop the high ground of space as a medium for offensive weapons? Space forces “offer an ever-expanding view of the globe”<sup>4</sup> and also offer “the potential for permanent presence over any part of the globe.”<sup>5</sup> In addition to enhancing our own forces, we could now target the enemy’s land, naval, and air forces as never before. Can we make the doctrinal leap from space support to offensive space potential without rewriting every doctrinal publication and changing the current command structure? We can if we consider the effects we are trying to achieve without anchoring ourselves to the medium that supports their achievement.

This paper does not argue for or against the weaponization of space, but makes the case that if we do put offensive weapons capabilities in space, our current air and space doctrine fully supports this increased warfighting capability. The Air Force, as the Department of Defense’s lead agency for space operations, has already made great strides for offensive space operations in doctrine and command relationships.

## **THE IMPORTANCE OF SPACE**

In addition to the vast commercial use of space, it is difficult to imagine going to war today without the benefits of satellite imagery and communications, GPS-aided navigation and weapons systems, and the ability of a combatant commander to monitor the action real-time, even when headquartered thousands of miles away. Until now, the U.S. has enjoyed unhindered access and use of space for its military operations, but this may soon change. Even the National Defense Strategy highlights the importance of space in the future:

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<sup>4</sup> Air Force, Space Operations, Air Force Doctrine Document 2-2 (Washington, DC: 27 November 2001), 1.

<sup>5</sup> *Ibid.*, 8.

Our capacity to operate from international airspace and outer space will remain important for joint operations. In particular, as the nation's reliance on space-based systems continues to grow, we will guard against new vulnerabilities. Key goals, therefore, are to ensure our access to and use of space, and to deny hostile exploitation of space to adversaries.<sup>6</sup>

Because the U.S. military currently relies so much on satellite and space-based technology, it makes our military might increasingly subject to vulnerabilities if those satellites are destroyed.<sup>7</sup> President Bush's policy of preemption appears poised to carry over into space. According to acting Secretary of the Air Force Peter Teets, "If [diplomatic or non-lethal] measures fail, we reserve the right under international law to take defensive action against an adversary's space capability."<sup>8</sup> Mr. Teets highlights the fact that although the 1967 Outer Space Treaty contained the statement "space must be a sanctuary free of weapons," in reality there is nothing stated in international law that prohibits space-based weapons.<sup>9</sup> President Clinton declared that "the unimpeded access to and use of space [is] a vital national interest of the United States."<sup>10</sup> In fact, space is important enough to the U.S. that in 2001, a congressional committee convened to assess current and future goals with respect to space. The so-called "Space Commission" concluded that the U.S. was highly reliant on its space assets and that its space-based assets were also particularly vulnerable to a potential "Space Pearl Harbor." Although one of the commission's objectives was a wish to "promote the peaceful use of space," another obviously contradictory objective was to

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<sup>6</sup> Department of Defense, The National Defense Strategy of The United States of America (Washington, DC: March 2005), 13.

<sup>7</sup> Mark Sappenfield, "U.S. Moves to Create a Beachhead in Space," The Christian Science Monitor, 6 April 2005, 2.

<sup>8</sup> Ibid.

<sup>9</sup> William P. Sparling, "Cries of the Hunchback: Is Space a Theatre of War or a Sanctuary?," Marine Corps Gazette, 87 (May 2003): 63.

<sup>10</sup> Ibid., 64.

“Develop and deploy the means to deter and defend against hostile acts directed at U.S. space assets and against the uses of space hostile to U.S. interests.”<sup>11</sup>

Again, preemption appears to justify an “offensively defensive” posture. Additionally, the commission outlined several initiatives engineered to transform the U.S. military’s capabilities. One of these initiatives was entitled “Power Projection In, From and Through Space.” In addition to the current advantages to space-based systems, it was noted that:

It is also possible to project power through and from space in response to events anywhere in the world. Unlike weapons from aircraft, land forces or ships, space missions initiated from earth or space could be carried out with little transit, information or weather delay. Having this capability would give the U.S. a much stronger deterrent and, in a conflict, an extraordinary military advantage.<sup>12</sup>

It is apparent that the access and use of space is of critical importance to the United States. Just how important and how far we will go to protect that access is still not clear and much of the data concerning weapons in space is contradictory, even when it comes from the same source. There are many arguments both for and against the use of weapons in space. Having highlighted the importance of space, especially to the U.S. military, we will examine the assumption that space-based weapons will occur at some point in the future.

### **ADVANTAGES OF WEAPONIZING SPACE**

There are many military advantages to putting offensive weapons in space. From an operational standpoint, space-based offensive assets provide great benefits to the operational

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<sup>11</sup> Commission to Assess United States National Security Space Management and Organization. Washington, DC: 11 January 2001, 27.

<sup>12</sup> *Ibid.*, 33.



factors of space, force, and time. The operational factor of space is defined as the physical space where friendly and enemy forces are engaged in combat.<sup>13</sup> From an Air Force point of view of achieving air and space superiority over this physical space, weapons in space overcome many of the obstacles presented to aircraft trying to gain superiority in the same physical space. Risk factors such as huge distances, basing rights, aerial refueling, and even sovereignty and overflight issues are mitigated as offensive space potential takes root.

The advantages of weaponizing space can also be applied in the operational factor of force. The ability to achieve the “ultimate high ground” with space superiority is of great advantage to the operational factor of force. Large Air Force force-to-space ratios would not be required to maintain air and space superiority over a given battle space with a robust array of space-based weapons overhead or ready on short notice. Having space superiority and offensive weapons in space heightens our ability to gain air superiority.

The operational factor of time is another advantage of space-based weapons when compared to weapons delivered by surface, naval, or air forces. Of the operational factors of space, force, and time, time is perhaps the most critical because it can never be regained.<sup>14</sup> As we shall see later in this section, space-based assets can employ quickly anywhere around the world, giving the obvious advantage of finding a defender unprepared for the attack. They also allow the engagement of rapidly fleeting targets due to their permanent presence.

Space-based weapons provide the greatest advantage in space-time. As any movement in space requires time, time is required to overcome great distances in the factor

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<sup>13</sup> Milan Vego, Operational Warfare (Newport, RI: Naval War College, 2000), 79.

<sup>14</sup> *Ibid.*, 89.

of space. Space-based weapons offer great speed and thus reduce required transit time to the battle space.<sup>15</sup>

### **ARE WEAPONS IN SPACE INEVITABLE?**

There are obvious military advantages to placing offensive weapons in space, but is the weaponization of space inevitable? The “Space Commission” stated in 2001 that “we know from history that every medium – air, land and sea – has seen conflict. Reality indicates that space will be no different.”<sup>16</sup> Joint Publication 3-14, Joint Doctrine for Space Operations, lists four primary space missions: space control, force enhancement, space support, and force application. Space control deals with freedom of use and denial of space to adversaries. Force enhancement includes intelligence, surveillance, reconnaissance, and GPS assets. Space support involves lift and satellite capabilities. Force application involves space-based weapons. Although the mission area is clearly stated, the publication makes it clear that “currently, there are no space force application assets operating in space.”<sup>17</sup>

The “Space Commission” and Joint Pub 3-14 set the stage for offensive weapons in space. The Air Force followed suit and unveiled its Transformation Flight Plan in 2003. In it, several transformational space weapons systems were addressed. In addition to anti-satellite (ASAT) capabilities designed to jam enemy satellites to make them unusable, the document discusses future systems such as the Common Aerospace Vehicle, which will deliver conventional weapons from space anywhere on the planet in less than an hour. A

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<sup>15</sup> Ibid., 86.

<sup>16</sup> John Hyten and Robert Uy, “Moral and Ethical Decisions Regarding Space Warfare,” Air Space Power Journal, 18 (Summer 2004): 52.

<sup>17</sup> Joint Chiefs of Staff, Joint Doctrine for Space Operations, Joint Pub 3-14, ix-x.

space-based laser is also discussed not only as a defensive weapon, but one capable of penetrating the atmosphere to strike air and ground targets across the planet.<sup>18</sup>

If there are any doubts left that offensive weapons will go into space, they might be quelled with the following quotes by General Lance Lord, Commander of U.S. Air Force Space Command. In a speech to the Air Force Air War College, the general declared that “We are putting offensive, first-strike weapons in space.” In addition, he made another telling comment during the same speech: “Non-nuclear, prompt global strike from and through space can transform our ability to strike time-critical, emerging targets in the future.”<sup>19</sup>

### **DESCRIBING SPACE-BASED WEAPONS**

To assess Air Force space doctrine, it is important to discriminate and make a distinction between the different types of space weapons and their intended effect.

Because satellites can see anywhere on the face of the planet (highly dependent on orbit type), it stands to reason that any satellite can itself be seen when overhead. This presents the major vulnerability to space-based assets. Their location is either always known or can be predicted.<sup>20</sup> This vulnerability led to the rise of anti-satellite (ASAT) technology, designed to disable or destroy an enemy’s space asset. The dilemma presented is can space-based weapons be considered defensive? The Space Commission made a case that it is very difficult to tell what is occurring in space and that this lack of situational awareness might make it fruitless to attempt to be defensive in space. Pre-emptive action against impending

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<sup>18</sup> Air Force, The USAF Transformation Flight Plan FY03-07 (Washington, DC: 2003), 25-28.

<sup>19</sup> Lance Lord, “The Argument for Space Superiority,” Lecture, U.S. Air Force Air War College, Montgomery, AL: 29 March 2004. <<http://www.peterson.af.mil/hqafspc/Library/speeches/Speeches.asp?YearList=2004&SpeechChoice=60>> [5 April 2005].

<sup>20</sup> David C. Hardesty, “Space-Based Weapons: Long-Term Strategic Implications and Alternatives,” Naval War College Review, 58 (Spring 2005): 47.

attack might be preferable to waiting and suffering disproportionate losses to one's own space-based systems.<sup>21</sup>

In addition to its Transformation Flight Plan, the Air Force commissioned a RAND study in 2002 to analyze the possibility and utility of “using space-based weapons during terrestrial conflicts.”<sup>22</sup> In its analysis, RAND categorized space-based weapons into four distinct classes: directed-energy weapons, kinetic-energy weapons against missile targets, kinetic-energy weapons against surface targets, and space-based conventional weapons against surface targets.<sup>23</sup>

An example of a directed-energy weapon is called Evolutionary Air and Space Global Laser Engagement (EAGLE). It will use “airborne, terrestrial, or space-based lasers in conjunction with space-based relay mirrors to project different laser powers and frequencies to achieve a broad range of effects from illumination to destruction.”<sup>24</sup> Again, can this be considered a defensive weapon? Is its only purpose anti-ballistic missile (ABM) defense or does it make itself offensive due to its inherently offensive capabilities? Kinetic-energy weapons such as hypervelocity rod bundles can be used defensively as an ABM platform<sup>25</sup> or offensively because they “provide the capability to strike ground targets anywhere in the world from space.”<sup>26</sup>

If we do indeed put weapons in space and regardless of our intent, their inherent offensive potential will make it extremely difficult to ever label them “defensive” weapons.

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<sup>21</sup> Ibid., 49.

<sup>22</sup> Bob Preston and others, Space Weapons: Earth Wars (Santa Monica, CA: RAND, 2002), iii.

<sup>23</sup> Ibid., xvi.

<sup>24</sup> Hardesty, 46.

<sup>25</sup> Preston and others, 37-39.

<sup>26</sup> Hardesty, 46.

## SPACE COMMAND AND CONTROL

Each of the Services, with the exception of the Marine Corps, has a distinct space capability. Army Space Command (ARSPACE) provides satellite communications and theater missile warning. Naval Space Command (NAVSPACECOM) provides space and intelligence support to naval warfighters. Space Air Forces (SPACEAF) provides missile warning and space assets for navigation, communication, spacelift, and space control.<sup>27</sup> Each of these service components falls under the command authority (COCOM) of the Commander, U.S. Strategic Command (USSTRATCOM) whether he is the supporting or supported commander.<sup>28</sup> Of note is that none of these service components has force application in its mission statement. That mission, as well as space control, force enhancement, and space support belongs to the U.S. Air Force Space Command (AFSPC). AFSPC is a major four-star command and provides U.S. Air Force space forces directly to USSTRATCOM to perform the four primary joint space mission areas—space control, force enhancement, space support, and force application.<sup>29</sup> Although the other Services maintain their small space support functions, the Air Force operates most of the U.S. military space systems and controls approximately 90% of the Department of Defense space budget.<sup>30</sup>

The Joint Task Force (JTF) Component Command structure consists of a Joint Force Commander (JFC) with functional and service component commanders under his control. The functional commands include a Land Component Commander (JFLCC), Maritime Component Commander (JFMCC), Special Operations Component Commander (JFSOCC),

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<sup>27</sup> Joint Chiefs of Staff, Joint Doctrine for Space Operations, Joint Pub 3-14, II-3,4. The publication is out of date. It uses the term U.S. Space Command, which was replaced by USSTRATCOM on 1 October 2002.

<sup>28</sup> *Ibid.*, III-2.

<sup>29</sup> *Ibid.*, II-4.

<sup>30</sup> Robert S. Dudney, "The Struggle for Space," Air Force Association Magazine, (March 2004): Editorial.

and an Air Component Commander (JFACC). Each of the four major services also brings a component commander to the fight. For example, the Commander Air Force Forces is designated COMAFFOR.<sup>31</sup> The Air Force prefers and it is often the case that the COMAFFOR is dual-hatted as the JFACC. The COMAFFOR also normally assumes operational control (OPCON) of organic and deployable theater space forces. The Commander SPACEAF (COMSPACEAF) assumes OPCON of global space forces.<sup>32</sup>

### **AIR FORCE SPACE DOCTRINE**

Air Force Basic Doctrine lists six distinctive capabilities of the U.S. Air Force: Air and Space Superiority, Global Attack, Rapid Global Mobility, Precision Engagement, Information Superiority, and Agile Combat Support.<sup>33</sup> Distinctive space-based capabilities are not highlighted other than to show how they support each capability. Air Force space-specific doctrine consists of two major documents: Air Force Doctrine Document (AFDD) 2-2, Space Operations, and AFDD 2-2.1, Counterspace Operations. AFDD 2-2.1 expands the basic doctrine by stating “space superiority is a distinctive capability of the Air Force.”<sup>34</sup> Space superiority is used much like air superiority, where whichever side has it is free from attack in that medium from the other. AFDD 2-2.1 also defines “defensive counterspace” as using maneuver to preserve our ability to exploit space by protecting our assets from attack or interference. “Offensive counterspace” precludes an adversary from space exploitation via

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<sup>31</sup> Air Force, Air Force Basic Doctrine, Air Force Doctrine Document 1 (Washington, DC: 17 November 2003), 65.

<sup>32</sup> Air Force, Space Operations, Air Force Doctrine Document 2-2, 18.

<sup>33</sup> Air Force, Air Force Basic Doctrine, Air Force Doctrine Document 1, 74-82.

<sup>34</sup> Air Force, Counterspace Operations, Air Force Doctrine Document 2-2.1 (Washington, DC: 2 August 2004), vii.

impairment or destruction of his space systems.<sup>35</sup> Air Force space doctrine may not appear to be voluminous, but it is more than adequate to support the use of offensive weapons in space.

**Counter.** Because of the increased emphasis of space-based assets during conflict and the increased prestige afforded to space-oriented personnel, arguments are sometimes raised by members of the Air Force space community who desire a separate force for their medium. An example is from an Air Force space officer, published at Maxwell Air Force Base:

One cannot build space power theory and doctrine in general upon air power theory and doctrine...space power clearly requires fundamental, bottom-up, theoretical and doctrinal development. The most conducive environment for such development remains a separate space corps or service.<sup>36</sup>

The preceding argument takes a simplistic approach to doctrine and does not recognize the differences between the employment medium and desired effects. The Air Force Doctrine Center uses three criteria for judging new doctrine proposals: appropriateness, distinctiveness, and sufficiency. The following section will show that the Air Force does not need to rewrite its space doctrine in the face of space-based offensive weapons because 1) the weapons are not exclusively space related or produce primarily space effects and 2) the effects are already associated with existing Air Force doctrine.<sup>37</sup>

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<sup>35</sup> Ibid., 29-31.

<sup>36</sup> Bruce M. DeBlois, "Ascendant Realms: Characteristics of Air Power and Space Power," in The Paths of Heaven: The Evolution of Airpower Theory, ed. Phillip S. Meilinger (Maxwell Air Force Base: Air University Press, 1997), 529-578; quoted in Kurt S. Story, "A Separate Space Force: An Old Debate with Renewed Relevance," (Student Research Paper, U.S. Army War College, Carlisle Barracks, PA: 9 April 2002), 12-13.

<sup>37</sup> Todd C. Shull, "Space-Operations Doctrine: The Way Ahead," Air & Space Power Journal, 18 (Summer 2004): 101.

## RECOMMENDATIONS

**Doctrine.** Air Force doctrine is already in place to support offensive weapons in space. Despite the ill-advised and recently forgotten term “aerospace” used through the 1990s, it is very specific about not only the differences between air and space but also their linkages in increasing combat efficiency.

Doctrine is about warfighting...not physics. This principle specifically addresses the perceived differences between operations in the air and in space. Air and space are separate domains..., but are linked by the effects they can produce together...Therefore, Air Force doctrine focuses on the best means to obtain warfighting effects regardless of the medium in which a platform operates.<sup>38</sup>

A combatant commander should not have to worry or care about the medium or the platform used, but the desired effect.

Doctrine is about effects...not platforms...Doctrine states that airmen should, for example, seek to achieve air superiority, but doctrine does not focus on which platforms should be used to achieve that effect.<sup>39</sup>

By applying current Air Force doctrine to some desired effects and remembering the medium is not as important as the effect, it is clear that the current doctrine supports offensive weapons in space. Destroying enemy aircraft or an airfield from space is counterair, which is already supported in current doctrine. It might also help gain air superiority, a desired effect. To destroy another satellite or even a ground-based GPS jammer from space is an example of counterspace operations, again already supported by doctrine. Kinetic attacks from space to destroy a command bunker might be an example of strategic attack, just as if an aircraft delivered a bunker-busting bomb to do the job.

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<sup>38</sup> Air Force, Air Force Basic Doctrine, Air Force Doctrine Document 1, 5.

<sup>39</sup> Ibid., 5.



No new operational doctrine is required to support the weaponization of space.

A counter to this argument might be that if the mediums of air and space are indeed different, then why do airmen command air and space operations? Should it not follow that space officers should command space operations just as ground officers and naval officers command ground and naval operations respectively? AFDD 2-2 addresses this argument and agrees that a space-centric view is warranted and tolerable at the tactical level (e.g., operation of specific space platforms). At the operational level, however, focus on effects requires “integrated air, space, and information planning to achieve operational effects.”<sup>40</sup>

With weapons in space, operational and strategic attack can occur from and through space. The transit and the coordination required between the two mediums to target for effect requires better doctrine than the stovepiping of air and space assets.

**Command Structure.** The following is a doctrinal example of how worrying about the medium of employment and who owns what can have detrimental effects:

Doctrine is about using mediums...not owning mediums. This illustrates the importance of properly using a medium to obtain the best warfighting effects, not of carving up the battlespace based on Service or functional parochialism....”Ownership” arguments eventually lead to suboptimal (and usually at best tactical) application of efforts...<sup>41</sup>

Does the current command structure inhibit the optimum use of space assets or is a new Space Component Commander (JFSPCC) needed to do the job? Because of the effects-based desires of the COMAFFOR and the doctrine that supports him, neither a JFSPCC nor a separate service is required. The COMAFFOR is already responsible in current doctrine for counterspace operations and the JFC should normally designate the JFACC as Space

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<sup>40</sup> Air Force, Space Operations, Air Force Doctrine Document 2-2, 3.

<sup>41</sup> Ibid., 5.

Coordinating Authority (SCA), the “single authority to coordinate joint theater space operations and integrate space capabilities.”<sup>42</sup> In those cases where the COMAFFOR is dual-hatted as the JFACC and also designated the SCA, there is significant unity of command for space-based assets. This is how the Air Force desires it, but is it too much for one Air Force officer to handle? This is where the Director of Space Forces (DIRSPACEFOR) fits in. DIRSPACEFOR serves as the senior space advisor to the COMAFFOR or COMAFFOR/JFACC. He has significant space expertise and can usually execute daily SCA responsibilities as directed.<sup>43</sup>

The preceding is a busy command structure to be sure, but it remains effective and with strong unity of command. Additionally, the Space Commission found it best to avoid a new separate space service and a new component commander. It recommended that the Air Force be given Title 10 responsibility to organize, train, and equip space forces and also “making the Air Force the nation’s executive agent for space.” The commission did not advocate the notion of a separate space force or creation of a near-independent service like the Marines, but did note that future funding issues within the Air Force might warrant a space corps similar to the former Army Air Corps structure.<sup>44</sup>

With doctrine that covers all the bases for effects-based operations and a command structure that provides space credibility and expertise to the combatant commander, there is no need to drastically alter either system as we put offensive weapons in space.

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<sup>42</sup> Air Force, Counterspace Operations, Air Force Doctrine Document 2-2.1, 12.

<sup>43</sup> *Ibid.*, 14.

<sup>44</sup> Matthew Mowthorpe, “The United States Post Cold War Military Space Policy,” The Journal of Social, Political, and Economic Studies, 28 (Spring 2003): 17-18.

## CONCLUSION

Due to our increasing reliance of space-based assets and our desire and need to protect them, space-based weapons may be fielded sometime in the not-too-distant future. They have many inherent advantages to the warfighter and optimize many of the operational factors of war.

Because we are an effects-based military, there will not need to be a major Air Force doctrinal transformation to operate combat platforms in the medium of space.

From the COMAFFOR/JFACC perspective, the location of these platforms is irrelevant. The interaction required between the mediums of air and space is considered critical enough by the Air Force to ensure a well-qualified airman controls the two mediums. The COMAFFOR/JFACC will use space forces for force enhancement or in the case of space-based weapons, for operational fire effects that transit from and through both the air and space mediums.

To state that the location of a combat platform is irrelevant only applies to how the Air Force views the distinction between air and space. This is not the same as saying a JFLCC or JFMCC could control space weapons with the help and advice of the DIRSPACEFOR.

The location of space-based weapons might be irrelevant as far as the Air Force is concerned, but their addition to the combatant commander's available options will serve to increase his ability to target for effect.

When space-based weapons do arrive, the Air Force's air and space doctrine will be ready without a fundamental overhaul of employment doctrine or the need to build new command structures.

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