



Soldiers from the 1st Armored Division's 1st Stryker Brigade Combat Team out of Fort Bliss, Texas, look on as an F-16 Fighting Falcon executes a show of force 12 June 2015 in the skies over the National Training Center, Fort Irwin, California, during a Green Flag 15-08 training exercise. An aircraft executing a low pass over a conflict zone can act as a deterrent to potential enemy combatants. (Photo by Senior Airman Joshua Kleinholz, U.S. Air Force)

Multidomain Operations and Close Air Support A Fresh Perspective

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Tightening budgets have reignited long-simmering debates on the roles and missions of airpower. The Air Force remains persistent in its recommendation to retire the A-10 aircraft (sometimes called the Warthog). Though there are developmental issues with the A-10's notional replacement, Lockheed-Martin's F-35, mounting fiscal pressures keep the Air Force from changing its plans. As a result, some have even proposed that the Army procure and operate its own fixed-wing ground attack aircraft.¹ In the increasingly complex and contested future operating environment, the optimal warfighting approach for the American military must be centered on multidomain operations. Any parochial service decision would be dangerous and foolhardy. Examining close air support (CAS) in conjunction with other overlapping missions that occur in the intersection of the land and air domains effectively demonstrates the necessity of multidomain operations. Further, multidomain thinking in the CAS arena allows the U.S. military to better understand how to maximize the flexibility and capability airpower provides when applying multirole platforms such as the F-35.

Since the codification of the joint force with the Goldwater-Nichols Act in 1986, the United States uses the combined joint task force (CJTF) structure with coalition partners to conduct warfare. This construct and underlying doctrine were first employed during Operation Desert Storm in 1991. However, the Army often sees itself as the force that exists to win the nation's wars and seeks self-reliance as a service capability.² In reality, a CJTF conducts operations reporting to a geographic combatant commander (a joint billet) who reports to the president and secretary of defense.³ No service fights alone, yet each often thinks and plans individually. This problem of insular planning occurred repeatedly in the twentieth century, in operations from Guadalcanal to Vietnam.⁴

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Behind this insulated thinking is a lack of trust that the Air Force will be present to support the ground scheme of maneuver. This fear highlights an important concern but lacks supporting empirical evidence. Transferring to the Army a single-mission platform such as the A-10 or incorporating a fiscally responsible existing solution like the Beechcraft AT-6 to support the doctrinally defined roles of our services only furthers service stovepiping.⁵ This arrangement will not defeat the next adversary, particularly in the current and projected fiscally constrained and contested operating environment. In order to achieve the required level of service cooperation demanded by a multidomain approach, the foundation must be mutual trust. The first step toward achieving increased trust is a common understanding of multidomain operations.

The Multidomain Approach to Warfighting

Since the passage of the Goldwater-Nichols Act, joint operational approaches have proven themselves in combat. For the most part, Goldwater-Nichols has achieved many of its objectives. However, work remains, especially when considering the rapidly changing global operational environment. Further, the joint task force doctrinal structure used over the past fifteen years to promote joint capability has actually driven home incorrect habits of mind that are detrimental in the evolving operational environment. In particular,

these habits drive the service components to think about their respective operating areas as if in a vacuum. These concerns reportedly led

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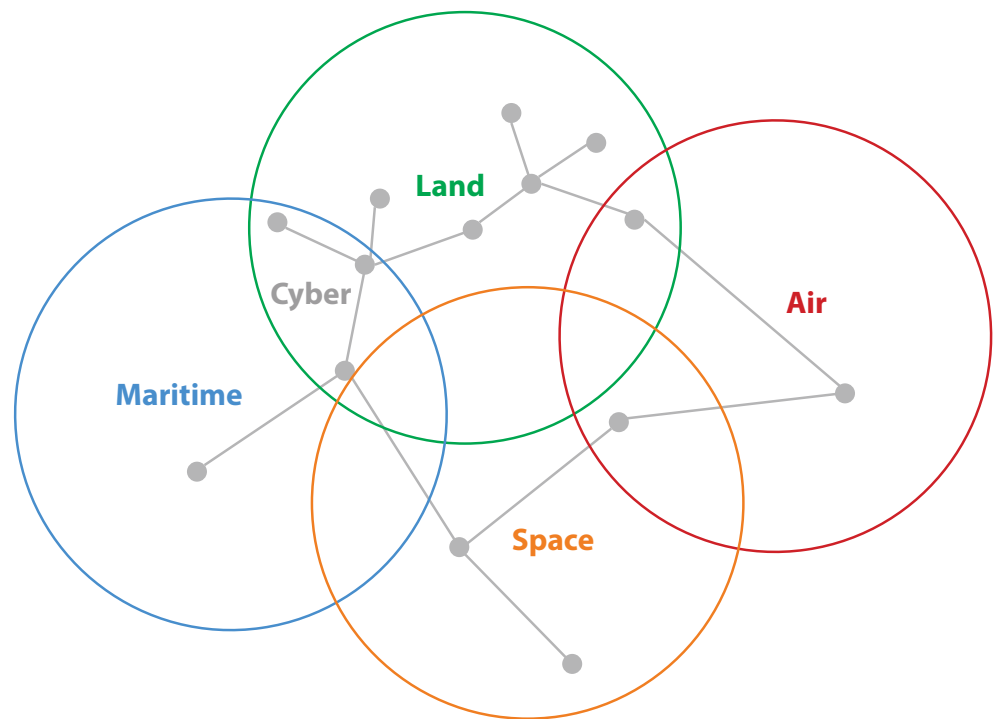
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then Chairman of the Joint Chiefs of Staff Gen. Martin Dempsey to ask in November 2011 what would come after joint, initiating a discussion that continues to this day.⁶ What comes next is the best joint force solution to this problem: a multidomain approach.⁷

The essence of multidomain operations is to think about military problem solving in a nonlinear way and to conduct operations focused on achieving objectives rather than on maintaining distinct component lanes.

Traditional thinking that rigidly aligns domains and components (land with the Army, maritime with the Navy, and air with the Air Force) will not be effective in the future. The complexity of current and future operations requires breaking this pattern of thought in order to more seamlessly integrate the unique capabilities of each component to create the effects required to meet tactical, operational, and strategic objectives. Multidomain operations will also allow U.S. military forces to leverage the potential of new, emerging domains, such as space and cyber. These domains are integral to modern warfighting, yet there is no cyber force component commander in charge of “cyber” at the joint task force level, where we primarily conduct major military operations. The component lens is not sufficient in this environment because operations are too complex.

Multidomain operations strive to achieve unity of command or unity of effort through conceptual unity of thought. Operations occurring in the land domain must consider effects in and through the air, maritime, cyber, and space domains, and vice versa (see figure 1). This noncomponent way of thinking minimizes friendly vulnerabilities and provides an effective way to find adversary vulnerabilities for exploitation in and from multiple domains. As efforts to counter U.S. advantages



(Graphic by Maj. Tim Tormey)

Figure 1. Multidomain Concept

continue, the American military is attempting to disaggregate command and control and push decision making to the lowest level possible due to the requirement for a much faster decision cycle.⁸ Because of this, a multidomain approach must be used.

A historical example from World War II illustrates the importance of multidomain operations. On 7 August 1942, American forces landed on the Pacific island of Guadalcanal in the Solomon Islands chain. After they established control over the island’s airfield, which they christened Henderson Airfield, the focus of the campaign shifted from preventing or forcing a landing on the island to sustaining and reinforcing the U.S. forces already on Guadalcanal. Both major bases in the area—Rabaul for Japan, and Espiritu Santo for the United States—were about 560 miles from the island. While this may seem like a battle fought in the maritime domain, both sides used a variety of multidomain efforts to try to force and keep open the access routes to Guadalcanal.

For the Americans, these operations focused on stopping the Japanese convoys ferrying troops and supplies from Rabaul to Guadalcanal. Air operations from Henderson Airfield entered the maritime domain, forcing Japanese transports to move at night within the

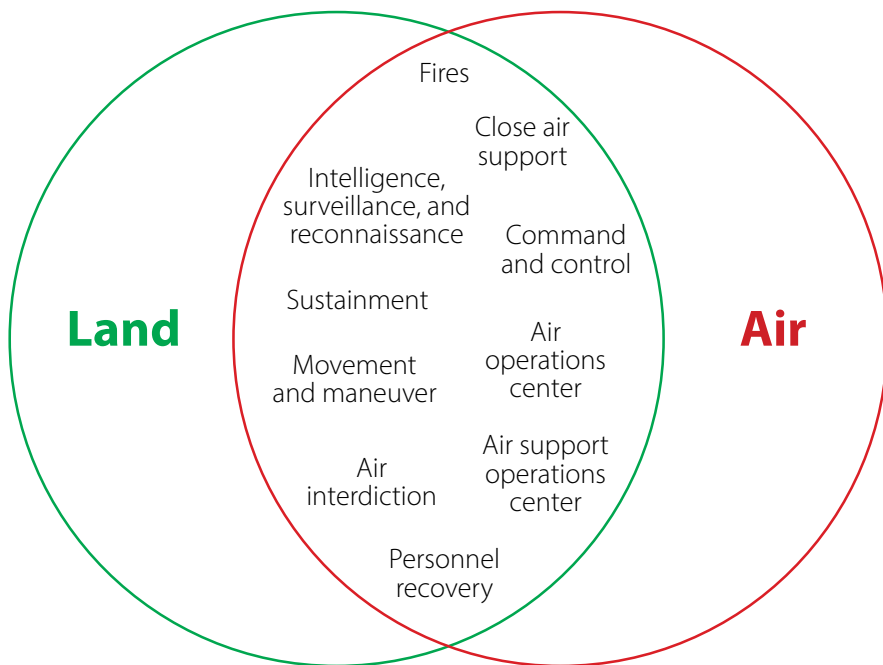
American air umbrella, which made navigation and cargo handling more difficult. Air forces also supported efforts in the land domain to expand and protect the Henderson Airfield perimeter from Japanese attacks. American naval forces crossed into the land domain, offering naval gunfire support to land forces, harassing Japanese land forces with bombardments, and interdicting supplies as they moved to, and around, the island of Guadalcanal. Naval forces also entered the air domain by using carrier-based aircraft to attack Japanese aircraft carriers intent on raiding Henderson Airfield, as well as interdicting Japanese efforts to bombard the island by sea. Land forces influenced the maritime fight through coast watchers who provided intelligence on Japanese movements by sea and air, as

domain by bombarding Henderson Airfield from the sea. Japanese land forces made several attempts to close Henderson Airfield by assault, which would have given the Japanese control of the air over the island to allow movement of supplies by sea. In the end, the ability of U.S. and Allied forces to coordinate their multidomain activities allowed them to enjoy the synergistic benefits of working across domains. The Japanese were less successful in their ability to bring land, air, and sea together into a cohesive operation, and they eventually lost Guadalcanal and other islands as a result.⁹

Maximizing Airpower Effects in the Land Domain

Within the broader context of multidomain operations, analyzing airpower effects in the land domain illustrates the value of contemporary force employment that has evolved beyond joint constructs. The intersection of the air and land domains encompasses a myriad of mission sets, to include air mobility; space; cyber; personnel recovery; fires; intelligence, surveillance, and reconnaissance (ISR); and many others (see figure 2). The CAS mission primarily falls under the joint function of fires and is just one small piece of the broader picture that includes protection, command and control, movement and maneuver, intelligence, and sustainment.¹⁰

Establishing air superiority is the first and most important effect that airpower provides for the land domain and overall joint force. Contemporary airpower theorist Phil Meilinger writes, “whoever controls the air generally controls the surface.”¹¹ In a more nuanced version of the same thought, Colin Gray posits, “control of the air is the fundamental enabler for all of airpower’s many contributions to strategic effect.”¹² U.S. forces are accustomed to having unfettered access to the air, but potential adversaries are becoming capable of creating an environment where the joint force will not have uncontested



(Graphic by Maj. Tim Tormey)

Figure 2. Air/Land Domain Intersection

well as providing security to Henderson Airfield from Japanese land attack and artillery bombardment.

The Japanese did not miss out on multidomain opportunities either. Japanese air forces in Rabaul threatened American ships at sea, limiting the areas in which the U.S. Navy could operate safely. They also raided U.S. land positions on the island. Japanese naval forces supported land operations by escorting transports to the island and by sinking several American ships that attempted to blockade the island. They intruded into the air



freedom of maneuver.¹³ Furthermore, active opposition to and increased competition against force projection capabilities are occurring.¹⁴ An acceptable level of air domain control is a prerequisite to enable the ground scheme of maneuver.

Once access to the land domain is achieved, precision fires are an essential element for achieving a joint force commander's maneuver objectives. Joint airpower assets have the capability to directly attack an enemy's center of gravity.¹⁵ No matter the operational or strategic nature of a center of gravity, airpower can affect it because of airpower's inherent flexibility. If the center of gravity is enemy leadership, it can be attacked through strategic strike. If the center of gravity is an enemy naval task force, airpower can combine with naval assets, such as surface ships and submarines, to destroy it. If the center of gravity is an enemy land formation, air and land assets can work to destroy it. In addition, air power's flexibility makes it easier to attack soft targets to achieve follow-on effects in other domains, such as attacking enemy command-and-control facilities to hamper enemy coordination against maneuvers by land and sea forces.

Operation Anaconda, which occurred in March 2002 in Afghanistan, illustrates the advantage of applying

An F-35A Lightning II joint strike fighter completes the first in-flight launch of an AIM-120 missile 5 June 2013 over the U.S. Navy's Point Mugu Sea Range near Oxnard, California. (Photo courtesy of the F-35 Program Office)

multidomain thought (or the disadvantage of not applying it), particularly in terms of operational planning. The ground commander, Army Maj. Gen. Franklin L. Hagenbeck, paid insufficient attention to air planning to such an extent that the combined force air component commander and the combined air operations center were not involved in the planning process at all; they only became aware of the impending operation when the operation order was issued on 20 February.¹⁶ The Taliban provided much more resistance than expected, and a pitched battle occurred with a furious and urgent call for CAS. The major CAS effort began slowly. However as the battle progressed, CAS rapidly improved and ultimately became the "key to winning the battle."¹⁷ Had the planners in Anaconda leveraged a multidomain perspective, effects from other domains could have been integrated from the very start of the operation. Even if their planning resulted in a ground-centric

operation, a multidomain thought process could have ensured the other components were engaged.

In addition to fires, other emerging mission areas should also be considered an integral part of operations to achieve effects in the land domain. Remotely piloted aircraft that provide persistent full-motion video can deliver or direct effective battlefield fires. Airborne ISR and mobility also closely integrate operations in the air domain for effects on the surface; these areas more accurately fall under CAS when considering the word “support.”

Thus, an understanding of operations and the synergy created by the land and air domains needs to expand. Airpower is inherently flexible. In order to maximize effects from the air on the land domain, multirole aircraft such as the F-35 are necessary. As an operating environment becomes increasingly contested and degraded, survivable platforms must be employed across the spectrum, from the low-intensity CAS mission to global strike. Basing our force structure solely on the current threat environment would be a mistake because the United States must have capabilities beyond those effective only in a permissive environment. The flexibility of airpower is a true force multiplier in multidomain operations—a must-have for the U.S. joint force.

Understanding Joint Fires and Close Air Support

The first hurdle toward understanding the role of CAS in multidomain operations is agreeing on an adequate definition of CAS. All involved, from the infantryman to the airman, must arrive at a corporate definition so CAS is common language and not an ambiguous concept. Joint doctrine defines CAS as “an air action by manned or unmanned fixed-wing and rotary-wing aircraft against hostile targets that are in close proximity to friendly forces and that require detailed integration of each air mission with the fire and movement of those forces.”¹⁸ Under the air-land domain integration umbrella, Derek O’Malley and Andrew Hill recommend five CAS characteristics: CAS should be close so it can be persistent, precise and rapid so it can kill enemies and avoid fratricide, versatile so it can operate in various contexts, scalable so it can use the right amount of firepower for the situation, and integrated with land forces so the air forces can promptly share useful information with the warfighters on the ground.¹⁹

To achieve a common understanding, a cultural paradigm shift is necessary. Specifically, the land component’s thinking and associated lexicon regarding CAS need adjustment. The traditional Army view of CAS has morphed from a maneuver support function to “air cover as a preventive measure with the expectation of enemy contact,” according to Mike Benitez.²⁰ In “How Afghanistan Distorted Close Air Support and Why it Matters,” he describes how this view of CAS emerged “after years of fighting asymmetric, low-intensity, guerrilla warfare.”²¹ CAS as viewed through this protection lens is narrow. CAS should instead be viewed from the fires perspective and not under the protection category of the joint functions. Hostile targets in close proximity to friendly forces have been and will continue to be the exception to the most efficient use of aviation-delivered fires. While airplanes overhead provide a psychological safety net in the event of a miscalculation on the battlefield, the same can be said of any type of precision fires available organically to the land force. Changing this paradigm overcomes a cultural barrier, opening the aperture and allowing alternative, effective, and safe fires.

In this paradigm, the first priority for the ground component is organic to the Army. It includes precision-guided artillery fire, rotary-wing CAS, and even GPS-guided mortars. Nonorganic fires can come from an array of current Air Force or Navy delivery vehicles (e.g., A-10, AC-130W, B-1, B-52, F-15E, F-16 Block 40/50, F-18, F-22, MQ-1, MQ-9, and F-35), many of which have all the desirable attributes of a CAS platform. These types of fires all provide the desired result and do so with the precision required in dangerous close environments.

A consistent impediment to effective multidomain operations and joint fires has been coordination of responsibility and authority. The early phases of Operation Iraqi Freedom clearly demonstrate several doctrinal flaws that a capable adversary could exploit. The fundamental problem was that the speed and complexity of the situation outpaced the capability of the coalition forces to effectively command, control, and integrate air and land domain forces. Doctrinally, deconfliction of responsibility for fires is accomplished by various fire support coordination measures in specific areas of operation, usually controlled by the joint force land component commander.²² In Operation Iraqi Freedom, the joint force land component commander delegated fire support coordination line authority to the Army’s V Corps, which would often

place the fire support coordination line up to one hundred kilometers from the forward edge of troops.²³ In 2003, this definition of the “deep” area forced the combined force air component commander and the 3rd Infantry Division (Mechanized) [3ID(M)] into a cumbersome coordination process that often shut down both surface and air-power fires.²⁴ The division’s after action report states, “the argument seems to be that CFACC [the combined force air component commander] would not adequately address V Corps targeting requirements; 3ID(M) violently disagrees ... 3ID(M) believes CFACC is better prepared to engage targets to effectively shape the battlefield.”²⁵

The lesson in Operation Iraqi Freedom’s “race to Baghdad” is not whether the land component or the air component should have had higher authority in delineating targets. Instead, the joint force needs to address the cause of these operational seams to ensure a future adversary does not exploit them. In spite of the implementation of the joint air component coordination element after the lessons of Operation Anaconda, air-ground integration still has room to improve.²⁶ The multidomain concept provides a helpful lens toward achieving an increasingly integrated and highly agile approach to warfighting. Maneuver in the land domain and maneuver in the air domain should be viewed as equal partners and mutually enabling functions. As a starting point, the term CAS by definition is misleading because it implies a relationship dominated by the ground force.²⁷ RAND proposes the term “close air attack” as a more accurate way to communicate the partnership between air and ground forces.²⁸ Trust is fundamental to ensuring this relationship is functional and multidomain thought is institutionalized.

In addition to a habit of thought, a more flexible fire support coordination command-and-control structure is also needed. Using the principles of mission command, operational agility and integration are increased by pushing decision making down to the lowest level. The Marine Corps already uses a concept that delineates an area between CAS and the fire support coordination line and the battlefield coordination line, for the purpose of allowing Marine air-ground task force aviation to “attack surface targets without approval of a GCE [ground combat element] commander, in whose area the targets may be located.”²⁹ The battlefield coordination line provides an intermediary coordination measure between CAS and deep operations, which allows better exploitation of targets and integration of

air and land power. Another solution is to keep the fire support coordination line as close to the forward line of troops as possible. Flexibility in command and control will require changes from both the air and land components to match the current operational context. Finally, battlefield decision making below the component level is required to successfully operate in a contested and degraded air and land environment, especially if air domain superiority falls somewhere on the continuum between localized air superiority and air parity.³⁰ The joint air operations center, a monolith of centralized control, must delegate decision making and authority to a lower level tightly integrated with land domain operations.³¹ A coordinated, domain-focused command-and-control architecture will greatly improve joint force decision making and enable the level of operational agility future threats require.

Furthermore, recent operations provide opportunities to more accurately define CAS. If close air attack is used as a more precise term, then the joint force can begin to view this mission as integrated, domain-based fires. Traditional CAS synchronizes ground and air element resources for a ground-based objective—exactly the way organic Army aviation integrates with its ground forces—in close proximity to and with a regular working relationship that permits increased levels of both situational awareness and effectiveness. However, other missions outside the traditional definition of “danger close” have been conducted under the CAS umbrella, usually because a joint terminal attack controller (JTAC) is clearing the fires. The trend from Kosovo to Operation Enduring Freedom moves away from traditional infantry and armor air support, to a special-operations-forces-heavy integration with precision air that is “far different from traditional notions of CAS, ... a novel concept that touched the heart of the always sensitive special operations forces—conventional Army relationship.”³² Today, in Operation Inherent Resolve, aircraft are executing these close air attack missions while the JTAC and ground commander are far from the coordinated fires. They can do so effectively because of technology such as satellite radio, full-motion video, and video downlink. The same precision necessary in CAS is necessary in prosecuting these low-collateral damage, high-value targets.

Thus, our understanding of the doctrinal term CAS needs to expand. Close air attack fires have moved past well-understood concepts first developed in the world

wars, and comprehending this shift is essential to multidomain operations. CAS is truly platform immaterial. The most appropriate delivery vehicle should vary based on specific mission parameters and the operational and tactical situation. A wide variety of platform options has the required level of persistence and precision to achieve the desired effects on the battlefield. Applying multidomain thought also illuminates friction areas in coordinating fires using the fire support coordination line for the deep and close ground schemes of maneuver. In order to ensure this does not continue, both the Army and the Air Force need to increase the agility of their respective command-and-control systems to delegate decision making to a lower level. Examining the Air Force specifically and the CAS mission provides deeper understanding of the integration between the land and air domains.

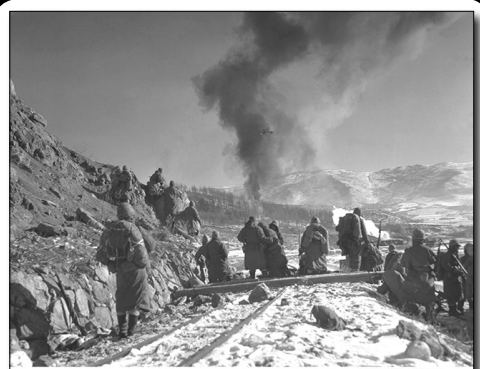
A Closer Look at Air Force Close Air Support

CAS, under any definition, is much more than a platform. The hardware component is a small portion of the overall investment the Air Force has made in championing today's CAS fight. To determine the level to which the Air Force has demonstrated its commitment to CAS, any evaluation must analyze three essential elements, with no special consideration given to platform. First, one must consider the emphasis and resources dedicated to training. Second, one must look closely at doctrine and ideas. Finally, one must examine operational examples that show the commitment of the Air Force to CAS as seen in contemporary operations.

Certainly, the largest investment in CAS comes in the training realm, both for the pilot and the weapons controller on the ground calling in the strike. The controller is the final clearinghouse for weapons release and is in possession of the clearest picture of friendly positions in relation to the enemy. Both combat controller and tactical air control party airmen graduate from the Special Tactical Training Squadron (STTS) at Hurlburt Field, Florida. In 2007, the STTS graduated roughly forty students, and that number has now more than tripled to its current annual throughput of 144 students.³³ Today's students will also earn their advanced JTAC certification from the Special Operations Terminal Attack Controller Course in Yuma, Arizona. In 2009, the Air Force purchased the Special Operations Terminal Attack Controller Course facility from the United States Army Special Operations Command and now also trains all Army JTACs. The Special Operations Wing at Hurlburt funds that training in Yuma at about \$4 million per year to cover the CAS assets required to certify each JTAC.³⁴

Military Review

A DIFFERENT VIEWPOINT



U.S. Marines watch as Marine Corps F4J Corsairs provide effective close air support 6 December 1950 in the vicinity of the Chusin Reservoir, Korea. One aircraft can be seen flying through the smoke billowing from a successful napalm bomb strike on a Communist Chinese position.

Precedent and Rationale for an Army Fixed-Wing Ground Attack Aircraft

Maj. John Q. Bolton, U.S. Army

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Maj. John Q. Bolton offers a different point of view on close air support in "Precedent and Rationale for an Army Fixed-Wing Ground Attack Aircraft." The Army aviator argues that the U.S. Air Force considers close air support a high-risk, low-payoff mission, and the Army needs to take over this mission with its own organic fixed-wing aircraft.

For online access to Bolton's "Precedent and Rationale for an Army Fixed-Wing Ground Attack Aircraft" in the May-June 2016 issue of *Military Review*, visit: http://usacac.army.mil/CAC2/MilitaryReview/Archives/English/MilitaryReview_20160630_art014.pdf.

Does this institutional investment provide what the average infantrymen need when they call for CAS? Arguably, they “want,” from either experience or legend, the A-10 screaming in low with its seven-barrel, 30-mm Gatling gun roaring and its large payload wreaking havoc and destruction on the battlefield. The psychological effect on the enemy observing this cannot be discounted. But if precisely killing the enemy while avoiding fratricide is the required effect, then the platform delivering the effect is irrelevant. The F-35 is indeed capable in the CAS mission area, and it will have improved capacity over time. However, while the F-35 is conducting a deeper strike at a critical enemy center of gravity, the Air Force has numerous other platforms that will deliver the desired outcomes.

The B-1 Lancer is just one of those CAS-capable platforms that carries the largest payload of any guided or unguided weapon in the entire Air Force inventory.³⁵ The B-1 can carry an assortment of GPS and laser-guided five hundred- and two thousand-pound bombs and in quantities every JTAC desires. In a show of Air Force commitment to the CAS mission, a 2009 account of soldiers pinned down at Outpost Keating in Nuristan, Afghanistan, clearly demonstrates this reality. “Bone 21,” the call sign of the B-1, was diverted from routine patrolling to Outpost Keating, 1,300 miles from its base of origination in Qatar. With a limited understanding of the gravity of the situation on the ground at Outpost Keating, Air Force controllers redirected “Bone 21” at supersonic speeds, to provide plentiful danger close fires to the soldiers in dire threat of being overrun by an estimated three hundred Taliban fighters.³⁶ This is one of many examples of the level of Air Force commitment to the infantryman.

The Air Force is fully committed to and invested in the CAS mission in support of the joint warfighting environment. The Air Force has institutionalized the battlefield airman and the JTAC construct, which will not go away.³⁷ Gen. Larry Welch, the previous Air Force chief of staff, pointed out in 2016 that over the last seven years, the Air Force flew on average twenty thousand CAS sorties a year, providing a needed function to the joint combatant commander.³⁸ Gen. Herbert Carlisle, air combat commander, recently stated, “We are using almost every platform we have to do CAS.”³⁹ Senior leader statements and organizational decisions by the Air Force clearly indicate that support for the land component in general and the CAS mission in particular will be an enduring high-priority mission for the service in the future.

Where Do We Go from Here?

Contentious arguments about retiring a specific airframe clearly indicate a lack of trust between some in the Army and Air Force. The Air Force certainly has contributed to this cultural mistrust. In the drawdown after Desert Storm, the Chief of Staff of the Air Force Gen. Merrill McPeak conducted a loud campaign that offended the other services, going to the point of saying that Desert Storm was “the first time in history that a fielded army has been defeated by airpower.”⁴⁰ This kind of rhetoric does not tend to move institutions toward cooperative solutions. Then Army Secretary John McHugh accurately summarized the issue when he stated, “What the soldier wants to see and what the command structure in the U.S. Army wants to happen (is placing) explosive ordnance on enemy positions ... in a timely and effective manner regardless of platform.”⁴¹ If budget dollars were abundant and politics a nonplayer, the A-10 and larger CAS issue would have quietly been resolved. Since that is not reality, however, the services need to cooperate and speak with a single voice under the multidomain construct.

At the tactical level, there are legitimate cultural implications concerning the A-10 retirement. A strength of any single mission platform is that the community becomes extraordinarily good at what they do. As opposed to the “jack of all trades, master of none” philosophy, the A-10 is extraordinary at the CAS mission. It is understandable that the ground component feels slighted when the symbol of CAS is being retired. Furthermore, it is imperative that the Air Force capture the expertise, training, and relationships that are championed by the A-10 community. As more flexible aircraft like the F-35 come online and take on the CAS mission, the Air Force must transfer the CAS tradecraft.

The services must trust that they will continue to support each other, and they need to communicate this. Multidomain thinking should lead the dialogue, which is not simply joint but a step along the way toward true synergy from mere deconfliction. With a better and common understanding of what CAS truly is, the joint force can move toward more agile command and control and greatly improve effects in and through the intersection of the land and air domains. Airpower and land power have been and will continue to be dominant warfighting options for the Nation as a part of the joint force—multidomain integration will only make them stronger. ■

Notes

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24. *Ibid.*, 133.
25. U.S. Army 3rd Infantry Division, *Third Infantry Division (Mechanized) After Action Report: Operation Iraqi Freedom*, Fort Stewart, Georgia, 2003, p. 108, cited in Johnson, *Learning Large Lessons*, p. 135.
26. S. Edward Boxx, "Airpower in the Interagency: Success in the Dominican Republic," *Air & Space Power Journal* 26, no. 3 (May-June 2012): 47, accessed 2 December 2016, <http://www.au.af.mil/au/afri/aspj/digital/pdf/articles/2012-May-Jun/F-Boxx.pdf>.
27. Bruce Pirnie et al., *Beyond Close Air Support: Forging a New Air-ground Partnership* (Santa Monica, CA: RAND Corporation, 2005), xix, accessed 2 December 2016, http://www.rand.org/content/dam/rand/pubs/monographs/2005/RAND_MG301.pdf.
28. *Ibid.*
29. JP 3-09, *Joint Fire Support*, A-4.
30. O'Malley and Hill, "The A-10, F-35, and the Future."
31. The joint air operations center and centralized command and control of air assets have been an ongoing debate since World War II. Air Force Core Doctrine Volume 1, *Basic Doctrine*, (Montgomery, AL: The Curtis E. LeMay Center, 27 February 2015), chap. 5, "The Tenets of Airpower," accessed 19 January 2017, <https://doctrine.af.mil/download.jsp?filename=V1-D80-Tenets-of-Airpower.pdf>. Air Force doctrine states, "execution should be decentralized within a command and control architecture that exploits the ability of front-line decision makers . . . to make on-scene decisions during complex, rapidly unfolding operations." Clint Hinote further expands the discussion arguing that that level of centralized control and decentralized execution should vary with the character of the conflict, but the basics of the concept are still sound. Hinote, *Centralized Control and Decentralized Execution: A Catchphrase in Crisis* (Maxwell Air Force Base, AL: Air Force Research Institute, 2009), accessed 19 January 2017, <http://www.dtic.mil/cgi-bin/GetTRDoc?Location=U2&doc=GetTRDoc.pdf&AD=ADA550460>.
32. Benjamin S. Lambeth, *Air Power against Terror: America's Conduct of Operation Enduring Freedom* (Santa Monica, CA: RAND Corporation, 2005), 365, accessed 2 December 2016, http://www.rand.org/content/dam/rand/pubs/monographs/2006/RAND_MG166-1.pdf.
33. Maj. Donnie Seablom, interview by authors, 1 July 2016. Seablom has eight years' experience in the mission support field for special tactics and has significant expertise and involvement in the Air Force training program for battlefield airmen. Additionally, confirmation was received via personal interview on 14 July 2016 by Canadian Maj. Josh Klemen, who is a qualified joint terminal attack controller and teaches an elective on close air support at the Air Command and Staff College.
34. Seablom, interview.
35. Clinton Romesha, *Red Platoon: A True Story of American Valor* (New York: Dutton, 2016), 285.
36. *Ibid.*
37. Air Force Policy Directive 10-35, "Battlefield Airmen," 4 February 2005 (certified current 23 March 2009), accessed 18 January 2017, http://static.e-publishing.af.mil/production/1/af_a3_5/publication/afpd10-35/afpd10-35.pdf.
38. Larry Welch, quoted in Amy Butler, "USAF Eyes New Era of Close Air Support," Aviation Week & Space Technology online, accessed 7 October 2016, <http://aviationweek.com/defense/usaf-eyes-new-era-close-air-support>.
39. Herbert Carlisle, quoted in Butler, "USAF Eyes New Era."
40. Merrill McPeak, quoted in Warren A. Trest, *Military Unity and National Policy: Some Past Effects and Future Implications* (Montgomery, AL: Air University Press, 1991), 25–26.
41. John McHugh, quoted in Butler, "USAF Eyes New Era."