American Armed Forces' Service Culture Impact on Close Air Support

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Close Air Support (CAS) is defined in Joint doctrine as "air action by fixed- and rotary-winged aircraft against hostile targets that are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces."[1] CAS is a difficult endeavor, requiring an immense amount of coordination and precision by all involved parties. It has been an increasingly important mission to all the services and has received considerable attention since 2001 when America's military entered the Global War On Terrorism, including Operations Enduring Freedom (OEF) and Iraqi Freedom (OIF). It has been over twenty years since the Goldwater-Nichols Act of 1986 reorganized the Department of Defense (DOD). The resulting improvements in coordination and interoperability across the services have been comprehensive and vast. As a result, "jointness" is a prime consideration for the refinement of CAS. Today the services are in the midst of a watershed event as stated by Lt Gen Robert Wagner, US Army, during testimony before Congress in February 2004.[2] America's armed forces are shedding much of the bulk and weight of their cumbersome Cold War force structures while transforming into lighter, faster, yet supposedly harder hitting forces. There are consequences, however. The US Army is losing significant organic firepower in terms of its heavy armor and artillery as one result of the transition. Ground forces are becoming more reliant on CAS as distributed operations with less organic firepower increasingly become the norm. CAS platforms and service procedures are not uniform. This essay focuses on the sometimes severe disparities in the ways US military services approach CAS.

US service culture plays a role in the execution of CAS on the battlefield. In order to gain a broader perspective, this paper begins by categorizing and comparing the services' characterizations of CAS. It then discusses how the services conduct CAS, both from the ground and airborne perspectives, and analyzes the conclusions and findings of several independent reports, and their link to service culture. Next, the article draws upon the observations and experience of combat-experienced terminal controllers. Finally, it discusses some encouraging current trends and makes recommendations.

Service Cultures Defined

Although unique in their perspectives, all services are intimately involved in the execution of the CAS mission. Due to its historic importance on the battlefield and the aim of improving our nation's warfighting capabilities, we must improve our knowledge and awareness of the service's cultures in order to understand how each approaches the CAS mission. The late Carl Builder, a long-time RAND analyst, wrote a controversial book in 1989 entitled *The Masks of War: American Military Styles in Strategy and Analysis*. He stated that the services have distinct personalities and by comparing them, one can better understand their outlook and behavior.[3] According to Builder, the services can be evaluated by comparison in five areas: (1) their "altar for worship"—what they hold most dear; (2) level of concern with self-measurement—how they rate themselves and define success; (3) preoccupation with "toys" versus the art of war—or the

precedence of technology versus operational art ; (4) degree and extent of intra-service (branch) distinctions—how they differentiate within their own service; and (5) insecurities about service legitimacy and/or relevancy—how they rate against the other services and their abilities to wage war.[4] Builder's ideas were proffered eighteen years ago, prior to the realization of many Goldwater-Nichols reforms. However, the basic tenets of his theory hold true and are an excellent framework for discussion. This was exemplified by a January 2006, *Proceedings* cartoon succinctly demonstrating, through humor, that today's services are viewed much as Builder saw them almost twenty years ago.[5] Although Builder did not identify the US Marine Corps as a separate entity, it will be looked at independently in this discussion, and examined alongside the other services.

The US Air Force. The Air Force worships at the altar of *technology* with the airplane as a symbol of leading edge technology and the instrument that gave it birth as an independent service. The other services are also becoming increasingly reliant on advancing technology, but are less reliant than the Air Force, which measures itself by its technological edge against rivals. An aircraft or weapon system's relative performance or capabilities are units of measure for the Air Force and currently exemplified by the development and deployment of the F-22A Raptor as many claim it has no current equal.[6]

With regard to "toys versus the art of war," the Air Force's answer is technology.[7] When asked what they do, Air Force pilots will tell you (down to the block number) what type airplane they fly. This is important because it is often the prism their warfighting perspective is based upon. Pilots dominate the Air Force and their perspective therefore pervades the service culture. This is a critical difference from the other services, as the preponderance of its warfighters do not have a ground warrior's perspective. Airpower pundits would argue this is actually a positive. However, when discussing CAS, it is a limiting factor.

In 1989, Builder concluded that the Air Force was quite sensitive regarding its identity and therefore exercised greater self-promotion.[8] Although his observations were made prior to the successes of Operations Desert Storm, Allied Force, Enduring Freedom, and Iraqi Freedom, they represent how the Air Force has historically fought to defend its revolutionary and occasionally controversial warfighting theories. The design and construction of the recently unveiled Air Force Memorial overlooking the Pentagon is as much a reflection of the service's historic innovation and use of technology as a memorial to its fallen warriors. It exemplifies Builder's conclusions. As the DoD undergoes "historic transformation," the Air Force is again sensing pressure on its missions and funding. Perceived encroachment on its roles and responsibilities remains a constant challenge.

The US Army. Builder argued the Army, as the most altruistic of the services, worships at the altar of the "country" through selfless service and personal sacrifice. The Army, although accustomed to and accepting of the cyclic expansion and contraction induced by shrinking budgets, peace dividends and shifting national interests, still measures itself according to numbers and end strength. A soldier places the *art* of soldiering above the toys and technology of his profession. Intra-service distinctions, according to Builder, play out very simply as traditional combat arms of infantry, artillery, and armor are held in the highest regard while the others are relegated to support roles. However, Builder found a greater cohesiveness between Army

branches than in either the Air Force or the Navy.[9] This is important to the overall perspective of Army leadership and its terrestrial perspective. Builder also found the Army had no significant insecurities concerning its legitimacy or relevancy. However, despite its inarguable importance to national defense, the Army has often been forced to accept and adapt to massive force structure cuts and loss of capabilities due to national budgetary concerns. This has created the ability to find ways to accomplish assigned missions without the resources normally deemed necessary to complete the task.

The US Navy. The US Navy worships its traditions and its rich history of independence of command at sea. The US Navy finds stability in rough times within its traditions and Builder regarded the grandeur of the independence of command as the basis for a strong service sense of autonomy.[10] The US Navy generally maintains a standoffish independence from the other services—a superior among equals. This attitude is why the Navy regularly has difficulty sending more highly qualified officers to the US Army Command and General Staff College due to a lack of interest and perceived irrelevance.[11] This independence has had a direct impact on the service' s CAS outlook as most of its leadership has little knowledge of the mission and certainly has never been in a position where they depended on it.

The Navy measures itself by the size of its fleet, specifically capital ships, and has maintained a fairly stable number of capital ships for some time. Each one "lost" is portrayed as a grave threat to its warfighting capability and forward presence.[12] Builder found the Navy less "toy-centric" than one might assume. He also observed that most officers, including naval aviators, would identify themselves with the Navy first, then their occupational specialty.[13] Builder found the Navy is no longer worried about its relevancy or legitimacy as it adapted well to new technologies such as ballistic missiles and long-range bombers during the Cold War. Additionally, I would argue that today's Navy is toning down its independent streak and improving its relevance to the nation's current focus on land operations such as OIF and OEF and the Horn of Africa (HOA). This has had a direct result on its views concerning the CAS mission.

The US Marine Corps. Marines worship the Corps itself and how the individual Marines contribute to its mission. This is exemplified by a quote from former Marine Corps Commandant Gen J. L. Jones in his 1999 Commandant's Guidance: "For the strength of the Corps is the Marine and the strength of the Marine is the Corps."[14] The motto "Every Marine is a rifleman," is the bedrock value underlying the true fighting power of the Marine Corps. Supporting the rifleman is the nexus behind all Marine officers attending six months of leadership and basic infantry training at The Basic School at Quantico, *after* Officer Candidate School and *before* their specific occupational schools. The establishment of a common knowledge base and perspective, upon which all else is based, is considered critical to the Marine Corps' success as a warfighting entity.

Marines measure themselves with respect to their flexibility and adaptability. This is shown in another adage: "…from the air, land, and sea and in every clime, and place."[15] Marines identify with the art of warfare as opposed to technology; seeing technology as a means to an end. Marines will generally identify themselves as a Marine first before their occupation—to include the aviators. The combat arms are held in a distinctly higher regard than the support branches

and there is an established hierarchy of "ground" over "aviation" as the commandant of the Marine Corps has always been a ground officer and the Assistant Commandant is traditionally an aviator. This is critically important to the Marine Corps' tenet of total support to the Marine on the ground

The Marine Corps never struggles with issues of relevancy and legitimacy internally. However, it is constantly defending its very existence despite continued combat success and the service's relatively low financial costs. Declining budgets always bring out arguments against the second (redundant?) land army, or the "additional" naval air force. Often treated as the Navy's annoying little sibling with guns, it is always competing for limited, finite defense funds against larger, "strategic" forces.

Services' Historical View of Close Air Support

The Air Force. As a service, the Air Force has historically placed CAS as one of its lower priorities, although officially committed to it since the 1948 Key West Agreement with the Army.[16] The US Air Force, born out of the strategic premise of airpower theory, has had difficulty balancing strategic vision and its procurement requirements with the tactical CAS mission and its requirements. Classical airpower theory, the basis for the Air Force's break from the Army after WW II, was based around three tenets: Airpower (1) must be strategic in nature; (2) is inherently offensive; and (3) must be independent of ground forces.[17] The Air Force has always championed maximum use of force and efficiency; with the key to efficiency being the flexible, concentrated, and centrally controlled employment of air power. CAS is none of these things and has traditionally been seen as a waste of valuable tactical assets, achieving limited results. It is a tactical mission that has languished within a strategically oriented service.

The Air Force maintains that the most efficient method of supporting ground forces is by interdiction where there is a much greater return on the investment of critical assets and time. Interdiction's success is difficult to dispute as shown by its effectiveness in the latter stages of Vietnam, Kosovo, OEF and OIF. However, the Air Force's obvious distaste for CAS has been well documented since its independence and has profoundly affected how the service has executed CAS. Ironically, the Air Force has often fervently defended its role as the Army's sole CAS provider. To protect its role, the Air Force has gone so far as to negotiate the removal of rotary-wing aircraft as a CAS platform from Army doctrine in the Johnson-McDonnell agreement of 1966.[18] Throughout the 1950s and 1960s, the Air Force attempted to reconcile CAS with nuclear-weapon delivery platforms like the F-105, an aircraft never designed for ground attack and flown by pilots with little training in the ground attack mission. Furthermore, it was not until the 1970s that the Air Force finally developed a CAS specific aircraft, the A-10, and did so only under the threat of losing the CAS mission to the Army.[19] The institutional neglect had been significant enough that Congress forced the Air Force to procure A-7s and former Navy A-1 Skyraiders until the A-10 was operational.[20]

The procurement and history of the single-mission A-10 was contentious in many respects as well, as it faced significant challenges both inside and outside the Air Force. Controversy also followed the A-10 after its success in Operation Desert Storm. The Air Force continually

highlighted the aircraft's perceived tactical shortfalls and attempted to remove its sole CAS specific aircraft from its inventory or transfer it to the reserves. A retired Air Force colonel told this author the Air Force went so far as to offer the transfer of the A-10 (and the CAS mission) to the Army in 1986 during inter-service alignment discussions. However, a disagreement regarding the Army's pilot procurement source caused the offer to be retracted by the Air Force.

A final example of CAS's low precedence is the lack of success of integration and joint training for the Air Force's air liaison officers (ALO) and terminal air controllers (TAC). The Air Force is responsible for assigning ALOs and TACs to the Army for assignment to various ground units. Until recently, some people perceived an assignment as an ALO as the "kiss of death" for a pilot's career so, it should be understandable that there would be few volunteers, and the enthusiasm of those involuntarily assigned may be questionable. Additionally, the Army's failure to successfully integrate the ALO into their units and pre-mission planning has been noted as a major issue by the Joint Close Air Support (JCAS), Joint Test and Evaluation task force and a frequently identified weakness between the services.[21]

All of the previous examples strike a similar chord of a lack of Air Force conviction for close air support. The Army has always had to make due with less close air support than it believes necessary because the Air Force has usually decided when, where and how it will support the Army. While the Air Force finally developed arguably the finest CAS platform ever designed, it did so only because it was forced to by congressional pressure and has, until recently, attempted to push the aircraft out of its inventory or to the reserves. It is obvious why the Army would fear a major component of its fire support could disappear at any time and distrust exists between the services concerning the subject.

The Air Force now appears to be growing more responsive to the Army's CAS needs rather than what the Air Force thinks the Army requires. The Air Force has added B-1s and B-52s employing Joint Direct Attack Munitions (JDAMs) and Laser-Guided Bombs to its CAS arsenal, in addition to funding a significant Service Life Extension Program (SLEP) for the A-10, (extending its operational life out to 2028[22]), exemplifying the Air Forces' increasing support for the CAS mission. However, except for the A-10 "Hog" pilots and AC-130 Gunship aircrew who have put their professional heart and soul into supporting their Army and special operating forces (SOF) brethren, the mission has historically been a source of contention and friction between the Army and Air Force and only time will tell if current initiatives continue to receive support.

The US Army. The Army acknowledges the need for CAS, but, historically, has a mixed track record of its own when called upon to support the mission through integration with the Air Force. The Army has grown accustomed to supporting its own indirect fire support requirements for two reasons: (1) Historically, the Army could not always count on the Air Force to provide the fire support required; and (2) it has always possessed the heavy forces capable of providing most of the fire support needed. The Army originally required a "guarantee" from the Air Force as to what it could expect in the way of CAS when the Air Force gained its independence after WWII. This was established by the Key West Agreement of 1948. Since then, the Army has struggled to compel the Air Force to provide the agreed fire support. During the 1950s and 1960s, the Army did not insist upon, and therefore did not receive, adequate CAS support during non-war periods. In fact, the CAS mission practically ceased to exist in the shadow of the Cold

War as the Air Force and the Army found it almost impossible to work together due to divergent priorities. The Army did not receive substantial or effective CAS until well into both the Korean and Vietnam conflicts when significant deficiencies were acknowledged, considerable resources applied, and CAS capabilities were redeveloped. The Air Force was held accountable for its lack of commitment to CAS during Congressional hearings in the mid- and late 1960s.[23] However, the Army was also responsible for the poor execution of CAS as it was complicit in allowing the capability to deteriorate as the mission slid to secondary status during non-war periods.

The Army's continued decision to *not* conduct CAS with its attack helicopters—well after the Johnson-McConnell agreement has served it purpose—is notable. The AH-64 Apache attack helicopter is an outstanding weapons platform, bringing immense firepower to the battlefield. It is extremely capable as a CAS aircraft, but is employed by the Army doctrinally as a maneuver element, not a fire support platform like the Marine's AH-1 Cobra. As such, it does not traditionally train for CAS. The Johnson-McConnell agreement of 1966 was a lesson in semantics as well as DoD and inter-service funding politics. The Army agreed to the CAS restriction in order to secure funding for the development of attack helicopters while the Air Force eventually received funding to develop the A-10. Even though current Joint definitions and publications include fixed- *and* rotary-wing aircraft as CAS platforms, the Army remains careful not to do so. The Army specifically refers only to Air Force fixed-wing aircraft as CAS platforms[24] and has substituted terms like "direct fire support,"[25] "close in fire support," and Joint Air Attack Team (JAAT). The Army even goes so far as to ensure joint publications state that the Army does not consider its attack helicopters to be CAS systems, although they are extremely capable of conducting "CAS JTTP when operating in support of other forces."[26] The Army does, however, execute JAAT operations, which are remarkably similar to what the Marine Corps has always called combined arms and CAS. The Army continues to tread carefully so as not to provide the Air Force any cause to bow out as the sole provider of CAS to the Army-Air Force team. All of these issues limit the firepower available to the ground units engaged in battle and cause rifts in coordinating and employing aircraft in fire support or CAS roles.

The US Navy. The Navy performs the CAS mission to keep Navy aviation relevant on today's battlefield. CAS has never been and never will be a priority for the Navy and its performance has reflected it.[27] The reasons date back to the development and emergence of the aircraft carrier, and continue today. Currently, a Navy fighter-attack squadron's priorities are: (1) safe carrier operations (an incredible drain on tactical training and employment); (2) fleet defense (protect the carrier and support ships); (3) large strikes; and *lastly* (4) CAS. The Navy has been lacking in its ability to provide "close support" for ground forces since World War II. The deficiencies were rectified when the Navy dedicated entire carriers to close support following the Mariana Islands campaign during WW II - however, Marine Corps squadrons manned them.[28] Today, to the Navy's credit, they are significantly improving their support capabilities by dedicating valuable training time and sorties to CAS and Forward Air Controller (Airborne) missions during pre-deployment workups.

The US Marine Corps. The Marine Corps spends a significant portion of its training on perfecting CAS. Because of the Marine Corps' limited size and its relatively light organic fire support, it relies on external fires, combined arms and maneuver warfare. The Marines are absolutely dependent on the firepower brought to bear by the aircraft they fly, including rotary-

wing aircraft. The difference between the Army-Air Force rigid division-of -labor approach and the Marine's combined arms method is that the Marines diligently plan for, and strive to employ their indirect fire weapons (rotary, fixed-wing, artillery and mortars) in a symbiotic manner, maximizing the effects according to each specific scenario. Rotary- and fixed-wing aircraft bring different strengths and weaknesses to the CAS mission. A Marine Forward Air Controller (FAC), fully integrated into his ground unit, especially during an operation's planning stages, understands this and applies the appropriate combination of tools to attain the desired results. Additionally, Marine aviators have fewer problems, speaking "Marine to Marine." The key to their success is the total amalgamation of the FACs and Air Officers (equivalent to Air Force ALO) into the unit. They belong to the ground unit commander, tend to be volunteers (especially in war), integrate, and train daily with the entire Fire Support Coordination Center.

Outside Appraisals

The effects of service culture are evident in several reports by the Government Accountability Office[29] (GAO) and the Joint Close Air Support, Joint Test and Evaluation task force. The first GAO report, *CLOSE AIR SUPPORT: Status of the Air Force's Efforts to Replace the A-10 Aircraft*, completed in 1988, is an excellent example of from where the Army and Air Force have come. The report describes the Army's official requirements for air support based on AirLand Battle doctrine in the European theater. These aviation requirements include aircraft with: high sortie generation rates, responsiveness, armor for survivability, the capability to operate day or night and under low clouds, the ability to carry a wide variety of ordnance in large quantities, and the flexibility to provide support across the full spectrum of the battlefield.[30] The Air Force's recommendation was to replace the A-10 with the A-16, a derivative of the F-16. This is not surprising considering the Air Force's attitude toward the A-10. Instead of upgrading the A-10 with improved avionics and night capabilities, the Air Force recommended developing an aircraft from what was then a single-engine, day-only fighter. The Air Force maintained that the A-10, regardless of its other attributes, was too slow to survive on the modern day battlefield.[31] The Army concurred with the recommendation because they sought continued support of the CAS and interdiction missions and would support anything that dedicated an aircraft to their requirements. Congress questioned the Air Force's recommendation, and their inattention to modernizing the CAS fleet while spending billions on what was to become the F-22.

A second GAO report produced in May 2003, entitled *Military Readiness: Lingering Training and Equipment Issues Hamper Air Support of Ground Forces*, discussed DoD's limited success of ensuring ground forces received appropriate CAS training in preparation for modern, joint operations.[32] It highlighted four barriers to realistic training that reduce the combat capability of aircraft: (1) limited realistic or effective training opportunities; (2) unrealistic preparatory home-base training; (3) different standards for terminal controllers; and, (4) a lower priority in doctrine and training for CAS. The GAO report specifically mentioned the Air Force tendency to focus on deep strike and air-to-air training during large exercises, the Army's tendency to focus on its own organic fire support, and lastly, the Air Force and Navy Weapons Schools' token CAS training.[33] The services continue to train to what they know, not to what is needed to properly support ground troops in the CAS mission.

Several reports generated by the Office of the Secretary of Defense's Joint Close Air Support, Joint Test and Evaluation task force, emphasize many of the shortcomings already discussed. They evaluated twelve brigade combat teams rotating through the Army National Training Center (NTC), and three Marine Corps Combined Arms Exercises at 29 Palms, California. The reports highlight the sharp contrast between the training centers. The joint team noted a lack of detailed, *integrated* planning for CAS by the Army staffs, a corresponding lack of integration of the ALO and tactical air control parties (TACP) into the brigade staffs, and a lack of integration between the Army Fire Support Elements (FSE) and the Air Force TACPs.[34] Subsequently, during execution there were two distinctly separate air and ground wars. Conversely, reports praised planning, integration and execution at 29 Palms.[35] Reoccurring problems at the NTC included: 1) a lack of integration between the ALOs and TACP teams with the Brigade staff and Army's FSEs); and 2) and a lack of familiarity with joint tactics, techniques, and procedures within the Army's FSEs. The reports blame the Army as much or more than the Air Force for not properly integrating Air Force personnel into their staffs, planning teams, or operational execution. Once again, the services' longstanding tensions, based on cultural differences, contribute to degraded warfighting capability.

Terminal Controllers' Perspective

Are terminal controllers and ground commanders affected by service culture induced differences in CAS? Are certain services or platforms "better" than others? If there are better platforms, why? The author conducted a series of short, standardized interviews in early 2006 to sample opinions on this subject from a cross section of current, combat experienced terminal controllers from the Army, Air Force and Marines; all were combat veterans; many were instructors and several were from the Marine and Air Force Joint Terminal Attack Controller (JTAC) schoolhouses. Most respondents gave extended explanations to support their answers. The following is a compilation of trends seen in the interviews.[36]

Not surprisingly, terminal controllers prefer working with what is already familiar to them. Marine fixed-wing FACs or FAC(A)s prefer other Marine fixed-wing support; rotary-wing FACs prefer rotary-wing support. Many Marines emphasized utilizing the different strengths of various platforms in situationally dependant scenarios; i.e. utilizing the correct tool at the correct time to achieve the required effects.[37] This shows a more complete understanding of combined arms techniques. Air Force JTACs preferred A-10s over Marine and Army rotary-wing aircraft. They were most familiar with the A-10 from their initial training, but received on-the-job training and some operational support from Army and Marine helicopters.[38] The unofficial overall favorite was the Marine AH-1 Cobra followed closely by the A-10 and Marine fixed-wing aircraft. The most common reason given for favoring the Marine aircraft and the A-10 was the terminal controller's sense the pilots understood the controllers' plight and that understanding was reflected in the support they provided—a result of the Marine's upbringing and the A-10 pilot's sole reason for existence. The least favorite platforms were the Air Force's F-15Es and F-16s and the Navy's F-18s and S-3s. There was a general consensus that Air Force and Navy fighters, although professional, felt no sense of urgency or affinity for the dilemma of those on the ground. This is not a surprising result based on the previously described differing service cultures. More than one respondent mentioned their least favored platform's inflexibility, lack of aggressiveness, or inconsistent capabilities. Notably, although extended lead-time was required,

B-52s were highly praised as "extremely motivated" and effective CAS platforms by the few controllers that had employed them. The Army's AH-64s and Kiowas were mentioned several times as providing excellent support. However, few Marine FACs have controlled them since the Army only employs CAS procedures on an ad hoc basis and does not execute (or train to) CAS as defined by Joint doctrine. This means the Army has excellent capabilities that are being underutilized due to its own doctrine

Current Trends and Conclusions

While most criticism of CAS in the past appears to be directed at the Air Force-Army team, several articles and reports on recent developments indicate a healthier relationship is being cultivated. A 2005 RAND report entitled *Beyond Close Air Support: Forging a New Air-Ground Partnership* provides in depth analysis of the CAS mission and the current Air Force-Army relationship. The report was commissioned by the Air Force in response to the Army's desire for sufficient JTACs to attempt to put one in every battalion or company.[39] The report recognized the import of recent conflicts and the blurring of the lines between strategic, operational and tactical operations, the targeting priorities involved (who sets precedence and prioritizes target lists is a long-standing source of friction), and many of the radical changes involved in the transformation of Army and Air Force Cold War infrastructure. The Air Force currently has difficulty meeting current ALO and JTAC requirements and would struggle to provide any additional quotas. The report is a good example of the apparently increased dialogue between the two services concerning CAS. As such, the Air Force is showing significantly increased interest in CAS since 2003. Examples of this interest include funding a significant SLEP for the A-10,[40] equipping their ALOs and JTACs with new communication and target designation suites, and deploying specially modified Stryker vehicles that enable Air Force personnel to fully integrate with Army units. In addition, the Air Force is employing B-52s in an expanded CAS role by arming them with forward-looking infrared sensors with laser designators and laser-guided weapons to complement the JDAMs they have been employing with great success. Only time will tell whether, like those of previous eras, these initiatives will wither during the inevitable budget battles that will ensue when the Air Force-Army team is off the CAS hot seat at the end of current hostilities. Nevertheless, it is encouraging to see the Army demanding proper support for CAS and the Air Force answering the call. The Army could also greatly improve its flexibility by re-examining and expanding its doctrine to include attack helicopters as a complementary CAS asset.

The Navy needs to continue its slow progress of improving and increasing its CAS capabilities. The limited CAS training received during pre-deployment workups is not enough to be truly trusted and effective as revealed in the JTAC interviews. The Navy, having already obligated Marine F-18 Hornet squadrons onto their carriers as a result of TACAIR Integration,[41] should strive to absorb more of their "Green" attitude and capabilities. This would only enhance the Navy's current and future warfighting relevance while bringing an incredible array of firepower to bear by gaining the terminal controller community's trust and confidence.

The Marine Corps needs to continue providing its leadership, passion and innovative outlook to the CAS mission. Innovation and modernization will be critical to the men and women on the ground as the battlefield and armed forces continue to evolve. The service can not allow itself to

become complacent in its capabilities or short in its vision as it reduces the number of tactical fixed wing squadrons as it transforms its air combat element over the next ten to fifteen years.

The distinct cultures of America's armed forces influence how their members live, work, and fight. Each Service brings capabilities and strengths to the CAS mission. The warrior on the ground and the pilot above, regardless of service branch, must understand and trust each other in order to maximize the lethality and effects of each and every CAS mission. Soldiers, sailors, airmen and Marines on the ground and under fire are depending on it.

Notes

1. Joint Chiefs of Staff, Joint Publication 3-09.3, Joint Tactics, Techniques, and Procedures for Close Air Support (CAS) (Washington D.C.: GPO, 03 Sept 2003), I-1.

2. Robert Wagner, Lieutenant General, US Army, Deputy Commander US Joint Forces Command, Statement regarding transformation made before the Committee on Armed Services, Sub-committee on Terrorism, Unconventional Threats and Capabilities, United States House of Representatives, 26 February 2004, http://www.globalsecurity.org/military/library/congress/2004_hr/040226-wagner.htm.

3. Carl Builder, The Masks of War: American Military Styles in Strategy and Analysis (Baltimore: Johns Hopkins University Press, 1989), 4.

4. Ibid., 17.

5. Eric Smith, "Dreams For a Happy New Year," *Proceedings*, January 2006, 8. The cartoon is of three flag officers' dreams for a happy new year: the Admiral dreams of a shiny new DDX destroyer, the Air Force General dreams of his new F-22, and the Army General dreams of home.

6. Builder, Masks of War, 19, 21.

7. Ibid., 23-26.

8. Ibid., 27-28.

9. Ibid., 20-26.

10. Ibid., 18.

11. John Kuehn, "Let's Send Our Best to Leavenworth," *Proceedings*, January 2006, 77.

12. Builder, Masks of War, 21.

13. Ibid., 24.

14. Headquarters U.S. Marine Corps, Marine Corps Strategy 21 (Washington, DC, 3 Nov 2000), 1.

15. Ibid., 1.

16. Douglas N. Cambell, The Warthog and the Close Air Support Debate (Annapolis: Naval Institute Press, 2003), 31.

17. Carl Builder, The Icarus Syndrome (New Brunswick: Transaction Publishers, 1994), 207.

18. Cambell, The Warthog, 63.

19. Ibid., 54, 62.

20. Ibid., 56-59.

21. Office of the Secretary of Defense, Joint Close Air Support, Joint Test Force, "Marine Corps Service Deputy Observations," to Joint Test Director, 7 March 2000.

22. Ron Laurenzo, "Air Force—No Plans to Retire A-10," Defense Week, June 9, 2003. http://www.globalsecurity.org/org/news/2003/030609-a-10-retire01.htm.

23. House of Representatives, Committee on Armed Services, Close Air Support—House Report, 1965, 89th Congress, 2nd Session, 1965 (Washington DC: GPO, 1966, UG633.U56 1966) and United States Senate, Committee on Armed Services, Hearings Before the Preparedness Investigating Subcommittee, 90th Congress, 2nd session May-June 1968 (Washington DC: GPO, 1968).

24. JP 3-09.3 Joint Tactics, Techniques, and Procedures for CAS, I-5.

25. Cambell, The Warthog, 74.

26. JP 3-09.3 Joint Tactics, Techniques, and Procedures for CAS, I-2.

27. This is not to say individual Navy aircrew do not care about, or train for CAS – their opportunities are limited. US Navy F-14/F-18F aircrew train extensively in FAC (A) missions and consider it a key squadron capability or core-competency.

28. United States Fleet, Headquarters of the Commander in Chief, Amphibious Operations: Invasion of the Marianas, June–August 1944 (Washington, DC: Navy Department, 1944), 2-7, 2-8.

29. Formerly known as General Accounting Office

30. General Accounting Office, Report to the Chairman, Committee on Armed Services, House of Representatives, CLOSE AIR SUPPORT: Status of the Air Force's Efforts to Replace the A-10 Aircraft, GAO/NSIAD-88-211 (Washington, DC: GAO, September 1988), 14.

31. The A-10 was designed specifically for CAS where supersonic capability was not required or needed. It needed to be able to see, identify and destroy its targets—a significant problem for the supersonic fighters in the 1960s and 1970s.

32. General Accounting Office, Report to the Ranking Minority Members, Subcommittees on Total Force and Readiness, Committee on Armed Services, House of Representatives, MILITARY READINESS: Lingering Training and Equipment Issues Hamper Air Support of Ground Forces, GAO-03-505, (Washington, DC: GAO, May 2003), 2.

33. GAO, Issues Hamper Air Support, 3.

34. Office of the Secretary of Defense, Joint Close Air Support, Joint Test and Evaluation, "Overview Information Briefing," 2003), 16.

35. Office of the Secretary of Defense, Joint Close Air Support, Joint Test and Evaluation, "Joint Close Air Support (JCAS) USMC Combined Arms Exercise (CAX)—Results," February 2002, Executive Summary 2-4.

36. The author conducted the interviews in January and February 2006. A total of 23 interviews were conducted by e-mail, telephone, or in person of individuals from the USMC, US Navy and USAF. All interviews began with a set of questions to ascertain the interviewee's perspective and experience. The initial questions included rank, service, combat experience, types of aircraft controlled, professional background and current billet. The crux of the interview was two questions: "What is/was your favorite CAS platform?" and "Why?" The author interviewed eighteen Marines aviators (half fixed-wing and half rotary-wing), two Navy F-14 FAC(A) aircrew, one Navy SEAL, and two Air Force JTACs. All of the Marine FAC(A)s were at least FAC(A)Is (Instructors) at the squadron level. Two Marine officers and the Air Force JTACs are currently TACP or JTAC instructors at EWTGPAC (Marines) or the Air Force's JTAC school at Nellis AFB. The intent of the interviews was to draw out the individual's personal experience and opinions of the support they have received from the various types of CAS platforms with which they had experience.

37. Interviews with Majors Shawn Basco, Gerald Kearney, Peter Janow by Major Rhett Lawing, January 2006 via e-mail, telephone and in person. Interview with the two Air Force TACP/ETAC instructors via extended e-mail correspondence—both requested their names not be published.

38. ETAC instructor interviews.

39. Bruce Pirnie, et al., Beyond Close Air Support—Forging a New Air Ground Partnership (Santa Monica: RAND Corp., 2005), iii.

40. Ron Laurenzo, “Air Force: No Plan to Retire A-10,” Defense Week. 09 June 2003, <http://www.globalsecurity.org/org/news/2003/030609-a-10-retire01.htm> (01 Feb 06).

41. Department of the Navy, Memorandum of Agreement Between Commander, Naval Air Forces, and Deputy Commandant for Aviation, United States Marine Corps (Washington DC: 23 November 2005).

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