THE ROCKY ROAD TO FULL JOINTNESS

PROGRESS AND SETBACKS IN RECENT AMERICAN AIR WARFARE EXPERIENCE[1]

BENJAMIN S. LAMBETH

The American experience at 21st century warfare to date has offered repeated opportunities for students of national security affairs to observe joint-force operations in action and to draw due conclusions regarding the progress that American joint combat has made, both for better and for worse, since its initial baptism by fire during Operation Desert Storm in 1991. That experience has been dominated by a remarkable transformation in the combat repertoires of the US Air Force and Navy in the realm of integrated aerial strike operations, as was resoundingly attested by the near-seamless joint conduct of both kinetic attacks and supporting activities by the two Services in Operations Enduring Freedom and Iraqi Freedom. It also has featured notable, if more uneven, progress in the conduct of integrated air-land operations in those two major wars and in the subsequent counter-insurgency (COIN) campaigns that have continued to this day in Iraq and Afghanistan.

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One of the most remarkable and praiseworthy aspects of American combat capability today is the close harmony that has evolved since the 1991 Persian Gulf War in the integrated conduct of aerial strike operations by the US.

This paper, tasked with offering a capstone perspective on recent trends in joint warfare, will review those examples of exemplary success, more fitful progress, and continued atavistic practices in the American effort to forge a true cross-Service integration of capabilities and functions in the interest of joint force commanders in all mission areas. The paper will begin by describing briefly how the air force and navy since Desert Storm have, through the collective effort of like-minded operators in both Services far removed from the roles-and-missions squabbles and budget battles inside the Washington Beltway, progressively evolved a unified approach to aerial strike operations that can be held up as a role model for the sorts of improvements that the army and marine corps could, in principle and with the right incentives and determination, also effect in the joint arena. It will then consider some representative aspects of air-land warfare in the three-week major combat phase of Operation Iraqi Freedom and in the ensuing COIN wars in Iraq and Afghanistan that bear witness both to laudable progress and to continued problems along the road to a fully mature American joint warfare repertoire. Finally, the paper will offer some brief concluding reflections on the timeless constants that will largely determine the extent to which such progress can be expected to continue.

EXEMPLARY AIR FORCE-NAVY INTEGRATION IN STRIKE WARFARE

One of the most remarkable and praiseworthy aspects of American combat capability today is the close harmony that has evolved since the 1991 Persian Gulf War in the integrated conduct of aerial strike operations by the US Air Force and US Navy.[2] For years, the navy was accustomed to operating independently

2. For a full account of this experience, see Benjamin S. Lambeth, *Combat Pair: The Evolution of Air Force-Navy Integration in Strike Warfare* (Santa Monica, Calif: RAND Corporation, MG-655-AF, 2007). A more condensed version may be found in Benjamin S. Lambeth, "Air Force-Navy Integration in Strike Warfare: A Role Model for Seamless Joint-Service Operations," *Naval War College Review*, Winter 2008, pp. 27-49.

on the high seas, with a consequent need to be completely self-reliant and adaptable to rapidly-changing circumstances far from the nation's shores and with the fewest possible constraints on its freedom of action. Largely for that reason, operations integration with the air force was not even a remote consideration. On the contrary, the main focus was rather on force *deconfliction* between the two Services. Not only figuratively but also literally, the navy and air force conducted their routines in separate and distinct operating environments, and no synergies between the two Services were produced—or even sought.

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These divergent Service approaches to air operations persisted throughout the 1970s and early 1980s, with the final years of the Cold War after the nation's combat involvement in Vietnam ended in 1973 seeing little significant change from the previous pattern of segregated operations that were the norm throughout the eight-year air war in Southeast Asia. Given their stark dissimilarity in outlook and mission orientation, the navy and air force, in a fair characterisation, "simply thought about and operated within two separate conceptual worlds."[3] Operation Desert Storm, however, made for a major turning point in this respect. Iraq's sudden and unexpected invasion of Kuwait in August 1990 presented naval aviation with new and unfamiliar challenges. Simply put, the 1991 Gulf War in no way resembled the open-ocean battles that the navy had planned and prepared for throughout the preceding two decades.

With respect to equipment, the naval air capabilities that had been fielded and fine-tuned for open-ocean engagements, such as the long-range AIM-54 Phoenix air-to-air missile carried by the F-14, were of little relevance to the coalition's predominantly overland air combat needs. Navy F-14s were not assigned to the

3. Major General John L. Barry, USAF, and James Blaker, "After the Storm: The Growing Convergence of the Air Force and Navy," *Naval War College Review*, Autumn 2001, p. 122.

choicest combat air patrol (CAP) stations in Desert Storm because, having been equipped for the less crowded outer air battle in defence of the carrier battle group, they lacked the redundant onboard target recognition systems that the rules of engagement promulgated by US Central Command (CENTCOM) required for the more conflicted air environment over Iraq. Similarly, in the land-attack arena, because of the navy's lack of a significant precision-strike capability, its six carrier air wings that participated in Desert Storm were denied certain targets that were assigned to the air force instead by default.

Fortunately, although naval aviation entered the post-Cold War era ill-equipped for the latter's new demands, the navy quickly made the necessary adjustments in the early aftermath of Desert Storm. In the realm of equipment, it stepped out smartly to upgrade its precision strike capability by fielding both new systems and improvements to existing platforms that soon gave it a degree of flexibility that it had lacked throughout the five-week Gulf War. First and foremost, it moved to convert the F-14 from a single-mission air-to-air platform into a true multi-mission aircraft through the incorporation of the air force-developed LANTIRN infrared targeting system that allowed the aircraft to self-designate laser-guided bombs (LGBs) both day and night.[4]

The navy leadership also rectified its shortfall in precision-guided munitions (PGMs) delivery capability by equipping more F/A-18s with the ability to fire the AGM-84E standoff land-attack missile and to self-designate aim points for LGBs. To correct yet another equipment-related deficiency highlighted by the Desert Storm experience, naval aviation also undertook measures to improve its command, control, and communications arrangements so that it could operate more freely with other joint air assets within the framework of an Air Tasking Order (ATO). Those measures most notably included gaining the long-needed ability to receive the daily ATO aboard ship electronically. Finally, in the realm of doctrine, there was an emergent navy acceptance of the value of strategic air campaigns and the idea that naval air forces must become more influential players in them.

4. LANTIRN is an acronym for "low-altitude navigation and targeting infrared for night."

To be sure, despite such trends toward more harmonious cooperation, a number of disconnects between the navy and air force persisted throughout the 1990s. One recurring manifestation of the cultural divide that still separated the two Services came in the form of continued expressions of navy discontentment with the air force-inspired ATO and the way in which, at least in the view of many naval aviators, it sometimes made less than the best use of the nation's increasingly capable carrier-based strike forces. Some of those complaints, however, merely reflected a less than full understanding of the air tasking process and what lay behind it. Most, moreover, would have been voiced under just about any alternative mission management arrangements. Often overlooked was the fact that North Atlantic Treaty Organiston (NATO) operations over the former Yugoslavia throughout the 1990s were highly constrained exercises in which it was not possible for planners in the Combined Air Operations Centre (CAOC) to make optimal use of *any* air assets, navy or any other. In those cases, the ATO often provided a convenient lightning rod for navy complaints that were actually prompted by the severe operating limitations that were imposed by political leaders in the interest of avoiding fratricide, collateral damage, non-combatant civilian casualties, and other violations of standing rules of engagement, with the intent to both reassure reluctant NATO allies and prevent tactical mistakes from producing undesirable strategic consequences.

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that were first put into effect shortly after the conclusion of Desert Storm. That prolonged aerial policing function proved to be a real-world operations laboratory for the two Services, and it ended up being the main crucible in which their integration in strike warfare was forged. By conscious choice, both Services sent their best operators to serve temporary-duty assignments in the supporting CAOCs in Turkey and Saudi Arabia to work together in the joint planning and execution of those non-stop air operations over Iraq. Over time, their working relations became more and more seamless. Viewed in hindsight, this convergence was not just a result of the navy's need to acquire the wherewithal for remaining relevant in joint warfare. It was even more a direct outgrowth of conscious leadership determination in *both* Services, based in considerable part on their steadily-evolved mutual trust relations over time, to move toward a more common operating culture when it came to coordinated joint-force execution.

This gradual process of operational integration saw a final convergence over Afghanistan during Operation Enduring Freedom against the Taliban and Al Qaeda. The terrorist attacks carried out against the United States on September 11, 2001, levied upon the nation a demand for a deep-strike capability in the remotest part of Southwest Asia where the United States maintained virtually no access to forward land bases. That unusual demand required the navy's carrier force to provide the bulk of strike-fighter participation in the joint air war over Afghanistan that ensued soon thereafter.[5] To be sure, air force heavy bombers also played a prominent role in that air-centric campaign. Nevertheless, carrier-based aviation operating from the North Arabian Sea substituted almost entirely for what would have been a far larger complement of land-based fighters in other circumstances because of an absence of suitable forward operating locations close enough to the war zone to make the large-scale use of the latter practicable.

5. For a full treatment of that joint air war, see Benjamin S. Lambeth, *Air Power Against Terror: America's Conduct of Operation Enduring Freedom* (Santa Monica, Calif.: RAND Corporation, MG-166-1-CENTAF, 2005). For additional specifics on naval aviation's integrated contributions to it, see also Benjamin S. Lambeth, *American Carrier Air Power at the Dawn of a New Century* (Santa Monica, Calif: RAND Corporation, 2005), pp. 9-38.

Much energy was wasted during the war's early aftermath in parochial fencing between some air force and navy partisans over which Service deserved credit for having done the heavier lifting in Enduring Freedom, with air force advocates pointing to the preponderance of munitions and overall bomb tonnage dropped by the air force and navy proponents countering that it was carrier-based aircraft, in the end, that flew the overwhelming majority of combat sorties and that performed nearly all of the "true" precision LGB attacks. That dispute was totally unhelpful to a proper understanding of what integrated air force and navy strike operations actually did to produce such a quick and lopsided win over the Taliban and Al Qaeda. In fact, it remains a toss-up as to which Service predominated in the precision-strike arena. Arguing over whether navy or air force air power was more important in achieving the successful outcome of Enduring Freedom was about on a par with arguing over which blade in a pair of scissors is more important in cutting the paper. For the first time in the history of joint warfare, Operation Enduring Freedom showed real synergies in air force and navy conduct of integrated strike operations. In addition, for the first time, naval aviators found themselves occupying key CAOC positions ranging from the deputy combined-force air component commander (CFACC) on down.

This process of integration saw a further convergence during the three weeks of major combat in Operation Iraqi Freedom. If the air war over Afghanistan was tailor-made for integrated air force and navy strike operations, the subsequent campaign a year later to topple Saddam Hussein would prove to be no less so. That campaign set a new record for close navy involvement in the high-level planning and conduct of joint air operations and stood in stark contrast to the navy's less gratifying experience 12 years before during Desert Storm, when the overwhelming majority of the staffing of the CAOC's targeting cell was by air force officers, with navy members

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both too few in number and too junior in rank to influence the day-to-day decision-making. In the end, Operation Iraqi Freedom was a true joint-Service effort involving wholly integrated air force and navy strike operations. As two military historians writing an early synopsis of the war aptly put it, that effort saw "little of the petty parochialism that too often marks interservice relations within the [Washington] Beltway."[6]

In both wars, each Service brought a needed comparative advantage to the fight. In the case of Enduring Freedom, air force bombers flew only around 10 percent of the total number of combat sorties but dropped roughly 80 percent of the ordnance, including the preponderant number of satellite-aided joint direct attack munitions (JDAMs). For its part, although the navy needed the support of air force tankers to be mission-effective, its sea-based strike fighters operating off the coast of Pakistan provided an essential combat capability in a part of the world where the air force both lacked the needed access to operate its fighters most efficiently and remained limited in the number of fighter sorties it could generate even after it finally achieved its needed access. The reason for the latter was the substantially greater distances to Afghanistan from forward land bases in the Persian Gulf that demanded fighter missions lasting as long as 15 hours, which were unsustainable over the long haul.

The performance of air force and navy strike assets during the first two American wars of the 21st century bore ample witness to the giant strides that had been made in the integration of the two Services' air warfare repertoires since Desert Storm. In both cases, carrier air power, long-range bombers, land-

6. Williamson Murray and Major General Robert H. Scales, Jr., USA (Retd.), *The Iraq War: A Military History* (Cambridge, Mass.: The Belknap Press of Harvard University Press, 2003), p. 114.

based tankers, and land-based fighters were available and ready for CFACC tasking when the time came, and all four force elements were crucial to the timely achievement of the joint force commander's declared objectives. The two wars also saw naval aviation fully integrated into the joint and combined air operations that largely enabled the successful outcomes in each case. In addition, they showed increased navy acceptance of effects-based thinking, as well as a common use of the joint mission planning tools that the air force had refined during the decade after Desert Storm. Prompted by the successful experience of Enduring Freedom and Iraqi Freedom, prospective carrier air wing commanders and other rising naval aviation leaders now routinely spend upward of 100 days forward-deployed in CENTCOM's CAOC at Al Udeid Air Base in Qatar for operational planning familiarisation in a senior staff assignment before assuming their new command responsibilities. They also routinely attend the air force's strike planning course at Hurlburt Field, Florida and, after having moved on to post-command billets, its week-long CFACC course at Maxwell AFB, Alabama.

As for other signs of progress toward greater cross-Service integration in strike warfare, there have been steady improvements in joint operations and training between the air force and navy since American combat involvement in Vietnam ended more than three decades ago. For years, naval aviators have routinely taken part in the air force's recurrent Red Flag realistic large-force employment training exercise that first began in late 1975 and that continues to be conducted roughly six times a year within the instrumented range complex north of Nellis AFB, Nevada. Also, the air force's and navy's undergraduate pilot training (UPT) programmes are now fully integrated, with air force officers commanding navy primary UPT squadrons and vice versa. The two Services continue as well to provide exchange officers to each other's line squadrons and flight test units on a regular basis, with a navy lieutenant commander recently assigned to fly the F-22 Raptor fifth-generation air force fighter with the 422nd Test and Evaluation Squadron at Nellis. Similarly, ever since the air force retired its EF-111 electronic warfare aircraft from Service not long after Desert Storm, air force aircrews have routinely been assigned to

full tours of duty as serving aircrew members with the navy's EA-6B shore-based expeditionary squadrons.

Perhaps most constructively of all, the two Services continue to bring their respective forces together in a variety of joint training and experimentation exercises aimed at further honing their interoperability and extracting the most from their synergistic potential when it comes to the conduct of effective strike operations. A good example of such joint involvement in realistic large-force peace-time training occurred during Exercise Valiant Shield '06, a five-day evolution conducted in the vicinity of Guam from June 19 to June 24, 2006. Valiant Shield involved the participation of some 22,000 personnel, 280 aircraft, and 30 ships, including the aircraft carriers USS *Kitty Hawk*, *Abraham Lincoln*, and *Ronald Reagan* and their three embarked air wings. It was the largest joint military exercise conducted in Pacific waters since the Vietnam War and represented the first installment of what will become a regular biennial exercise series involving various US Service branches and communities.

As reflected in the examples outlined above, the overall record of Air Force and navy accomplishment in integrated aerial strike operations since Desert Storm is a resounding good-news story that is a credit to each Service both separately and together. As such, it stands as a clear example of what can be done along similar lines elsewhere, not just in the interface between air and maritime operations, but even more so in the still-troubled relationship between the air force and army (see below) when it comes to the most efficient conduct of joint air-land warfare. This operational integration had to overcome multiple barriers and the most deeply-ingrained resistance to change in both Services. The fact that organisations, especially military organisations, tend to resist rather than embrace change makes the experience all the more remarkable. More encouraging yet, thanks to the guiding role played by individuals in both Services with the right focus and a determination to act on it, there is now a well-ensconced successor generation in place in both the air force and the navy

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who grew up as line aircrew members during the formative years of this integration process. Those individuals have since migrated through such mid-level positions as CAOC coordinators, combat plans and operations staffers, and strategy division principals to the more senior flag ranks and positions that will help them ensure that the strike warfare communities in both Services continue to pursue an increasingly common operational culture.

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MORE HALTING PROGRESS ON THE AIR-GROUND FRONT

In sharp contrast to the impressive pattern of air force-navy integration in aerial strike warfare since Desert Storm, the experience of the air force in its attempts at joint operations with its sister Services in the land warfare community have been considerably more difficult and uneven. To cite a particularly notable case in point, during the initial planning workups for Operation Anaconda, an army-led effort to bottle up and capture or kill Al Qaeda holdouts in the Shah-i-Kot valley of eastern Afghanistan in March 2002, the failure of the army command tasked with conducting the operation and CENTCOM's land component to enlist the involvement of the air component until it was almost too late nearly resulted in a disaster for the army when its attempted insertion of allied ground troops met unexpectedly fierce enemy opposition and left those troops for a time without adequate air support.

Prompted by an unseemly contretemps that ensued for a time in the early aftermath of that near-debacle when the operation's former commander accused the air force, without foundation, of having failed to provide his embattled troops with adequate close air support (CAS) in a timely manner, the air force's then-Chief of Staff, General John Jumper, initiated a four-star dialogue with his army counterpart, General Eric Shinseki, to get to the bottom of the many misunderstandings on all sides associated with Anaconda and to implement appropriate measures to ensure that such a failure to

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communicate between the concerned components would never again needlessly hamper the effective integration of US land and air forces in joint warfare. One direct outgrowth of that high-level inter-Service dialogue was CENTCOM's establishment of an Air Component Coordinating Element (ACCE) headed by Air Force Major General Daniel Leaf and physically collocated at the headquarters of the land component commander, Lieutenant General David McKiernan, in ample time for the execution of Operation Iraqi Freedom.

In his capacity as head of the ACCE, General Leaf was formally empowered to represent the air component as an extension of the CFACC, then-Lieutenant General Michael Moseley, and not merely to serve as a neutral "liaison" between the air and ground component commanders. His two-star status put him on an equal footing with General McKiernan's principal deputies for operations, intelligence, and other combat functions, which ensured that General Moseley's perspective as the CFACC would be routinely accorded full and proper attention during land-component staff meetings and briefings. In comments after the major combat phase of Iraqi Freedom successfully ended, General Leaf expressed the view that the campaign experience had strongly validated the ACCE concept as a means of better facilitating air-land integration. In particular, he remarked that the presence of the ACCE "allowed rapid resolution of areas of contention [and] competing priorities … that had been missing in other operations in the last 15 years or so."[7]

Still, there was recurrent friction in air-ground coordination throughout the three weeks of Iraqi Freedom. Despite the significant improvement in organisation for closer integration between the air and land components noted above, the classic and familiar discontinuity between air force and army thinking with respect to how best to neutralise an enemy's ground forces nonetheless reared its head repeatedly during the early days of the campaign,

7. Elaine M. Grossman, "General: War-Tested Air-Land Coordination Cell Has Staying Power," *Inside the Air Force*, March 12, 2004, pp. 13-14.

with air force airmen in the CAOC arguing for using fixed-wing air power to draw down enemy force capability to the greatest extent possible *before* allied ground units moved to direct contact, and army protagonists, for their part, insisting that the main purpose of the US Army is to defeat the enemy's army and that early ground-force engagement with the enemy was accordingly the ideal mode of operations. Such thinking clearly underlay the army's seemingly irresistible urge to pursue its ultimately abortive attempt at conducting a deep-attack assault against a Republican Guard troop concentration with AH-64 Apache attack helicopters. More important, it was the main explanatory factor behind some significant lost opportunities for CENTCOM to engage Iraqi ground forces in a most timely and effective way as a result of a continuing struggle between the land and air components over the ownership and control of the battlespace.

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On the first count, in a move reminiscent of Operation Anaconda that was almost completely uncoordinated with CENTCOM's air component, the V Corps commander, Lieutenant General William Wallace, approved a staff request to launch an Apache deep-attack mission on March 23, 2003, with the assigned objective of engaging three brigades of the Republican Guard's Medina Division that was deployed south of Baghdad. During the brief course of the attempted attack, all but one of the 30 participating Apaches sustained damage from enemy gunfire. During their hasty retreat from the target area, two barely avoided a mid-air collision. In the end, the 11th Aviation Regiment got badly shot up and experienced two aircraft losses (one with the crew captured), all for fewer than a dozen Iraqi vehicles successfully attacked.

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imposed limitations on joint fire-support delivery, particularly with respect to the placement of the fire support coordination line (FSCL), a recurrent point of contention between the air and land components that needlessly inhibited the most effective application of joint fires. To start with some basics, the FSCL was the primary fire-support mechanism for dividing CENTCOM's battlespace between the land and air components. Any terrain on the far side of the FSCL was essentially a free-fire zone for the air component, since there could be no possibility of friendly troops coming into contact with enemy ground forces in that portion of the battlespace. All kill boxes on that side of the FSCL were open to attacks from the air. In contrast, the terrain on the *near* side of the FSCL was primarily the land component commander's battlespace. Kill boxes that lay within it were closed to attack from the air unless air controllers assigned to army ground units expressly opened them for attacks under the control of airborne or ground terminal attack controllers.

During the initial allied ground advance into Iraq, the FSCL was extended by the land component to more than 130 km ahead of the line of attacking ground forces. That had the inevitable byproduct effect of severely stressing needed tanker support for airborne strike aircraft by extending the need for such support that much farther north. Similarly, to facilitate the planned Apache assault discussed above, the land component moved the FSCL forward dozens of miles in front of coalition forces. That decision, said General Leaf, "cost us [the air component], basically, a full night of fixed-target strikes inside the FSCL. We—the entire coalition team—had not hit our stride in achieving the command and control required to operate in volume effectively inside the fire support coordination line."[8]

8. Rebecca Grant, "Saddam's Elite in the Meat Grinder," *Air Force Magazine*, September 2003, p. 43.

A close trust relationship was forged between the air component and the First Marine Expeditionary Force (1 MEF).

In the case of joint kill-box interdiction and CAS planning on behalf of V Corps, the coordination in ATO development was conducted through the Army's Battlefield Coordination Detachment (BCD) in the CAOC. FSCLs were positioned farther than the usual distances ahead of the forward line of friendly troops because of an anticipated rapid rate of friendly advance. As an assistant to General Leaf later recalled on this point: "Every day, General Leaf would arrange for the FSCL to be pulled a little back, but every night the army majors would throw it far out again."[9] Part of the problem created for maximally-responsive air employment by this impacted arrangement was that the common geographic reference system based on kill boxes and key pads, although amply proven as an effective alternative to the FSCL a dozen years earlier in Desert Storm, had never been formally ratified in joint doctrine and accordingly was not duly honoured by army operations personnel in joint tactical contingency planning. For its part, the FSCL continued to be a familiar and time-worn artifact signifying army ownership and control of joint battlespace, even though it had become an anachronism for most circumstances of fluid air-land combat.

In contrast to this sometimes dissonant interface between the air component and the army's players in the land component, a close trust relationship was forged between the air component and the First Marine Expeditionary Force (1 MEF) with respect to the apportionment and use of marine corps aviation as the planning workups for Iraqi Freedom got under way. In that relationship, General Moseley, as the CFACC, retained ultimate authority over the allocation of marine fixed-wing aircraft, but he agreed to use those aircraft principally to support marine operations on the ground. He further promised to give the marines any additional air support that they might require from air force and navy strike assets. This trust relationship was facilitated by 1 MEF's provision

9. Michael Knights, *Cradle of Conflict: Iraq and the Birth of the Modern US Military* (Annapolis, Md: Naval Institute Press, 2005), p. 297.

of a highly-qualified marine aviator as a member of General Moseley's CAOC staff, who helped educate air force airmen as to what marine corps operational requirements were and also as to what marine aviation could contribute to the joint and combined air war.[10]

Indeed, in 1 MEF's area of operations, General Moseley so trusted the Marine Air-Ground Task Force (MAGTF) approach and the marines who were implementing it that he allowed 1 MEF to control the airspace above its immediate area of operations, as a result of which 1 MEF created its own direct-support ATO for execution by the 3rd Marine Aircraft Wing. For deep interdiction within this construct, kill boxes were opened and closed by the Marine Tactical Air Operations Centre and Tactical Air Control Centre (TAOC/TACC). For close interdiction inside the FSCL, TAOC terminal control was not required. For closer-in attacks, the Marine Direct Air Support Centre (DASC) provided terminal attack control. As recalled by the chief of the CAOC's strategy division, the DASC with 1 MEF was able to integrate more fires into the battlespace for CAS and interdiction than was the Air Support Operations Centre (ASOC) assigned to the army's V Corps. Particularly during the initial days of combined air-land operations, the ASOC was only able to integrate an average of six combat sorties into the fight per hour, whereas the DASC was able to integrate twice that amount of air support in the same length of time. Later, as joint air-ground operations hit their stride, the ASOC was able to integrate CAS sorties more efficiently.[11] Once that occurred, General Leaf noted that FSCL placement became less an issue as the air and land components succeeded in improving the coordination of their operations within kill boxes.[12]

As if to bear out the greater efficiency of the marine approach to managing air and ground fire support in common battlespace, at the height of the three-

10. Jay A. Stout, *Hammer from Above: Marine Air Combat Over Iraq* (New York: Presidio Press, 2005), pp. 16-17.

11. Colonel Mason Carpenter, USAF, "Rapid, Deliberate, Disciplined, Proportional, and Precise: Operation Iraqi Freedom Air and Space Operations—Initial Assessment," unpublished paper, p. 14.

12. Grant, n.8, p. 43.

day sandstorm when the land component's forward movement had all but ground to a halt, the land component commander finally pulled in the FSCL to just beyond the Euphrates river, opening up as many kill boxes as possible for the CFACC to work. At long last, a true air-ground joint concept of operations emerged for the first time, producing, as Michael Knights commented, "something akin to the arrangement that had been in place in the MEF sector throughout the war. The MAGTF concept underpinned the difference, allowing US Marines (and their subordinate British division) to fight as a true air-land partnership rather than as a ground and air component trying to get out of each other's way."[13]

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Eventually, army assessors came to realise the opportunity cost of their classic doctrinal compulsion in situations in which the land component lacked the needed situation awareness to conduct deep attacks inside the FSCL with its own organic fire-support assets. As the 3rd Infantry Division's after-action report frankly acknowledged on this key point: "The US Army must redefine the battlespace based on our ability to influence it."[14] The report went on to admit that "the FSCL was 100 km beyond the range of standard munitions from our M109A6s and M270s. This created a dead space between the area that the army could influence and the area shaped by the CFACC. The placement of the FSCL was so far in front of the forward edge of the battle area that neither divisional nor corps assets could effectively manage the battlespace."[15]

Despite such occasional instances of intercomponent friction at the margins, however, CAS provision was typically smooth throughout the major

13. Knights, n.9, p. 303.
14. US Army 3rd Infantry Division, *Third Infantry Division (Mechanized) After Action Report: Operation Iraqi Freedom*, (Fort Stewart, Ga., 2003), p. 108.
15. Knights, n.9, pp. 297-298.

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combat phase of Iraqi Freedom, irrespective of the colour of uniform that delivered it. As General Moseley remarked during a briefing to the media on April 5, 2003: "If you check into the CAS stack, you may be working with a marine in an F-18 or a navy crew in an F-14 or an air force pilot in an A-10. You won't know the difference. You'll just know the call sign and the location. So I think that's another wonderful testimony to joint training, joint doctrine, joint CAS, and being able to work the command and control to get the airplanes up there." As for the crucial importance of simply getting the job done right rather than tugging and hauling for a fair share of credit for having done it, Moseley added: "As the air component commander, I'm not sure I care how we kill the [enemy] tank. I just want the tank to die so my army captain doesn't have to face it…. There will be someone somewhere along the way [who] will want an accounting scheme of who killed what vehicle, but right now that's not important to us and it's not important to that lieutenant or captain."[16] Thanks in large part to these organisational measures, the air component's delivery of CAS throughout the major combat phase of Iraqi Freedom earned high marks from both army and marine corps consumers of the Service.

In sum, the concurrent and mutually-supporting application of air and land power in the same battlespace in Iraqi Freedom eventually bespoke a major advance in the conduct of joint warfare. As General Leaf put it, Iraqi Freedom represented the first time that the US armed forces had conducted large-scale combat with the air and land components working side by side "as equals," as a result of which the air and land components "achieved conceptual interoperability…. This was not [only] communications and software. We really had concepts linked. The real key was the collaborative planning at a

16. "Coalition Forces Air Component Command Briefing," Washington, DC, Department of Defence, April 5, 2003.

senior level." General Leaf added: "We used [the mix of force elements that was] most appropriate. Sometimes ground preponderance, other times the air, other times in the middle. It was part of my job." [17] The US Department of Defence later attributed the success of the three-week campaign largely to this unprecedented joint-force integration among the four Services. In commenting on that accomplishment, Admiral Edmund Giambastiani, the commander of US Joint Forces Command (JFCOM) at the time, noted that arriving at such insights as the importance of joint integration, adaptive planning, and speed in staying ahead of the enemy's decision cycle "was actually not all that easy. They had to be proven in conflict" and required "a significant change in US Service culture to accept the message that the power of the joint force is far greater than that of any individual Service."[18]

UPS AND DOWNS IN THE COIN ARENA

As was the case during the major combat phase of Iraqi Freedom, CENTCOM has likewise experienced recurrent inefficiencies in joint air-land operations in its subsequent COIN wars in Iraq and Afghanistan. To review the positive aspects first, much of the effectiveness of the air contribution to recent COIN operations in Iraq has been due not just to the equipment and tactics employed, but even more so to astute measures undertaken by combatants in all Services to bridge procedural seams and doctrinal gaps between such multi-Service command entities as the army-centric joint fires and effects cell (JFEC) of Multinational Corps—Iraq (MNC-I), the air force's collocated ASOC, the marine corps' separate DASC, and the air component's CAOC at Al Udeid Air Base in Qatar. Continuously improving lash-ups between and among these overlapping entities have helped the joint team operate in a smoother and more integrated way than might otherwise have been the case.

By far the majority of this integration takes place within MNC-I's JFEC, which directs fires, performs effects assessments, and oversees current and

17. Tim Ripley, "Closing the Gap," *Jane's Defence Weekly*, July 2, 2003, pp. 25-26.

18. John Liang, "JFCOM Commander Outlines 'Good' and 'Ugly' in Iraq Lessons Learned," *Inside the Pentagon*, March 25, 2004, p. 15.

future targeting. The adjacent ASOC, also located at MNC-I headquarters and staffed by air force airmen, works with the JFEC to coordinate CAS operations throughout Iraq on behalf of both MNC-I and the CAOC. As provided for in joint doctrine, the ASOC continues to report to the CFACC within air-component channels, but the army brigadier general in charge of the JFEC typically includes it completely in all JFEC decision-making. For its part, the ASOC continuously monitors the joint air request net that connects all assigned tactical air control parties (TACPs) at the battalion, brigade, and division level. It also services incoming air support requests (ASRs) in response to troops-in-contact (TIC) events as they occur. Since the traditional FSCL used as a CAS management tool in conventional operations does not apply in the fluid COIN situation in Iraq, kill boxes are used instead as the standard frame of reference, with the ASOC continuously moving available air assets to specific kill boxes throughout the country as tasking needs of the moment may require. This arrangement represents but one of many citable examples of the sorts of efficiencies that have been and can be achieved through both professional interdependence and the personal trust relationships that have evolved over time among the various multi-Service players.

It bears stressing here that ASRs from engaged army and marine corps field commanders tend to be highly disciplined and well justified by the tactical situation. In the current fight in Iraq, ASRs are received by the CAOC at all hours of the day in connection with as many as ten or more concurrent ground movements that might include battalion-level clearing operations, searches for insurgent weapons caches and bomb-making facilities, attempted hostage rescues, and direct-action attacks on insurgent or Al Qaeda leaders.[19] Almost all TIC declarations elicit timely air support responses, with the main source of friction and delay being occasional ground-to-air communications difficulties. The ASOC in Baghdad works closely with the CAOC at Al Udeid to minimise ASR response times. In 2004, when seams and wrinkles in the process were still being ironed out, the ASOC succeeded in reducing the average combat

19. Thom Shanker, "Special Operations: High Profile, But in a Shadow," *New York Times*, May 29, 2007.

information cycle time from 20-25 minutes during the summer to six or seven minutes by the time the second battle of Fallujah cranked up in November.

A revealing illustration of the joint air tasking process outlined above occurred in January 2005 when MNC-I's planning emphasis shifted from direct action against insurgents to supporting the Iraqi election process and determining an associated air presence plan for Iraq. In this evolution, the CAOC took the lead in designing and advocating the air presence plan. Some army MNC-I staff at first were said to have viewed this initiative as simply a CAOC attempt to create a mission for the air component. They accordingly directed that allied aircraft remain out of sight throughout the voting process. The MNC-I commander, however, forcefully countermanded that staff directive. With that amended commander's intent now firmly in control of unfolding events, the closely-integrated CAOC, JFEC, and ASOC team proceeded to reach down to brigade- and division-level fire support elements and to their assigned TACPs for suggested inputs from the field. The involved subordinate commands also designated specific villages that would require air servicing, mapped out air presence ingress and egress routes, and determined desired overflight altitudes depending on the on-scene commanders' desires either to deter insurgent activities or reassure the population as changing circumstances might require. With that guidance in hand, the CAOC battle staff then determined required tanker tracks, allocated tankers to them as appropriate, and surged strike assets into the designated areas of operations during the week leading up to the election. Lending further support to the seamlessness of this process was the army's BCD in the CAOC, which represented the land component there just as the ASOC represented the air component at MNC-I headquarters in Baghdad. Much of the cross-Service harmony that distinguished this force-management process was directly attributable to the accumulated experience and mutual trust among the key protagonists in the air and land components who had worked closely together over time.

That said, the use of air power in the ongoing COIN wars in Iraq and Afghanistan has not been without recurrent friction and inefficiencies ensuing

The use of air power in the ongoing COIN wars in Iraq and Afghanistan has not been without recurrent friction and inefficiencies ensuing from such abiding factors as differences in Service culture, intercomponent struggles over the ownership and control of air assets.

from such abiding factors as differences in Service culture, intercomponent struggles over the ownership and control of air assets, and resultant failures at times on CENTCOM's part to achieve the greatest possible unity of effort in joint-force application. On the first count, the air force has long insisted as a matter of tried and proven Service doctrine that scarce joint-force air assets should be centrally controlled by the CFACC in order that they may provide the greatest possible combat leverage and utility throughout the theater. The army, in marked contrast, has been inclined instead to stipulate, as its most recent COIN manual flatly reiterates, that "at the tactical level, air support requires a decentralized command and control system that gives supported units immediate access to available combat air assets and to information collected by air reconnaissance and support assets."[20] This sharp divergence in operating preferences has made for a systemic challenge in integrating the CAOC into day-to-day joint-force planning when its senior leaders characteristically approach air tasking issues from the top down, with a predominant focus on theatre-wide needs and concerns, whereas land-warfare planners, for their part, tend to view air-asset allocation priorities instead from the bottom up, with an all but exclusive fixation on here-and-now tactical challenges at the small-unit level.

To be sure, some of this dissonance emanates from the fact that airmen have traditionally been trained for major combat rather than for COIN operations and from the associated fact that CAOCs, as currently constituted, have been designed to support high-intensity operations more than geographically-distributed COIN situations. As a result, air force airmen face a recurrent conundrum in adapting to the ground-centric fight that is the only one they now have rather than coping with

20. *The US Army/Marine Corps Counterinsurgency Field Manual* (Chicago and London: University of Chicago Press, 2007), p. 366.

the proverbial "big war" in which they may some day be central and perhaps decisive participants. At the same time, the overwhelming dominance of the land component in the United States's two ongoing COIN wars, with all of the cultural baggage that land warriors inevitably bring to joint operations, has often meant in practice that the air component is essentially regarded and treated as an organic "air corps" by the land component, with air power not supposed to be anything *but* reactive to ground-force needs of the moment and with the CAOC regarded more as a "help desk" than as an integral player on the joint team.

Air force airmen face a recurrent conundrum in adapting to the ground-centric fight that is the only one they now have rather than coping with the proverbial "big war".

Principal among the many manifestations of this often frustrating reality is the fact that despite the presence of an ACCE at the headquarters of the Multinational Force-Iraq (MNF-I) in Baghdad, CENTCOM's air component and the CAOC are not really integrated into MNF-I's day-to-day strategic planning, insofar as such planning routinely takes place at all. As a result, air power continues to play basically a reactive role in Iraq, principally by way of responding to ASRs submitted by lower-level ground-force staffers that do not reflect underlying strategic thought but merely reflexive demands for target servicing. Moreover, since army commanders and planners typically are not deeply conversant with air power's full breadth of potential offerings, they often will ask for a particular item of equipment, such as a sniper infrared targeting pod, rather than for broader air-component missions, capabilities, or desired effects. The ultimate result, all too often, is combat aircraft being put on overhead stations merely where some ground-unit commander asks for them to be, not where they could actually be killing insurgents.

A related source of friction in air-land operations in the ongoing COIN wars in Iraq and Afghanistan is the continued, and seemingly relentless, tugging and hauling that goes on between the land and air components over the tactical control of all varieties of joint air assets. One sees this most visibly in the issue of unmanned aerial vehicle (UAV) operations by

the different Services. By early 2005, the air force, army, and marine corps together were operating more than 750 UAVs over Iraq and Afghanistan, yet without an overarching and coherent command-and-control arrangement to coordinate their respective activities in such a manner that, as former Air Force Chief of Staff General Jumper put it, "we have them [all] in the right place at the right time."[21]

According to joint doctrine, the CFACC, as a joint force's designated airspace control authority, has both procedural and positive control methods available to him to ensure proper airspace deconfliction. Positive control is used whenever aircraft are equipped in such a way as to allow air traffic controllers to identify and communicate with all aircraft operating in joint-use airspace. Alternatively, procedural control is used in specific blocks of airspace in which the absence of such equipment does *not* allow controllers to track an unmanned aircraft. The latter method, according to an air force expert, in effect "blocks off airspace for use by a single aircraft, since [that aircraft] is unable to be seen by and/or communicate with the necessary air traffic controllers. This restrictive procedure results in the highly inefficient use of airspace" and "restricts maneuver."[22] Among other things, such restrictive airspace management rules have occasioned more than a few instances in which air force and navy fighters could not respond immediately to insurgent mortar attacks because an army or marine corps UAV happened to be operating in the same area, preventing the fighters from entering it in a timely and mission-effective way.[23]

Air force and navy fighters could not respond immediately to insurgent mortar attacks because an army or marine corps UAV happened to be operating in the same area.

For its part, the air force—as the most authoritative articulator of air-component interests—has adamantly insisted that all medium- and high-

21. Lisa Kim Bach, "Air Force Boss Foresees UAV Program at Indian Springs," *Las Vegas Review-Journal*, March 10, 2005.

22. Colonel Robert Marlin, USAF, "Clarification on UAVs," *Defence News*, June 18, 2007, p. 60.

23. Lolita C. Baldor, "Military Services Lock Horns Over Control of Drone Aircraft," *San Diego Union-Tribune*, July 6, 2007.

altitude UAVs (that is, those that operate above 3,500 ft) should, for a number of good operational reasons, be controlled jointly (that is, by the CAOC) rather than by the individual Services that maintain them. First, as was recently explained by the Air Force's Deputy Chief of Staff for Intelligence, Surveillance and Reconnaissance, Lieutenant General David Deptula, "the result would be that intelligence from UAVs would be distributed to the greatest number of troops on the ground, sea, and in the air" and not just to the specific ground unit that happened to wield tactical control over the asset.[24] A second, and arguably even more compelling, basis for the air component's insistence on joint (i.e. CAOC) control of UAVs operating above 3,500 ft is the absolute requirement for safe airspace deconfliction. The former chairman of the Joint Chiefs of Staff, Marine Corps General Peter Pace, agreed in 2007 that with more than 700 UAVs operating over Iraq alone at the time, a better airspace deconfliction mechanism was badly needed, as was a more rational allocation of communications bandwidth among the Services.[25] Yet the army and marine corps continue to resist CAOC initiatives toward that end that would require them to relinquish tactical control of their UAVs. The jury remains out on how this still-festering problem will ultimately be resolved at the most senior command levels within MNF-I and CENTCOM.

The army is proceeding aggressively with the acquisition and forward deployment, at considerable cost, of its own organic Warrior UAVs that are all but carbon copies of the air force's RQ-1 Predator.

Not only that, the army is proceeding aggressively with the acquisition and forward deployment, at considerable cost, of its own organic Warrior UAVs that are all but carbon copies of the air force's RQ-1 Predator and that perform essentially the same functions, only in the narrow service of their individual army units at the battalion level and below rather than for the joint

24. Lieutenant General David A. Deptula, "Of Buying and Flying Those Pilotless Planes," letter to the editor, *New York Times*, April 22, 2007.

25. John M. Doyle, "Pace Says Pentagon Panel Looking into UAV Duplication," *Aerospace Daily and Defence Report*, May 10, 2007.

force as a whole. Apart from the needlessly expensive and duplicative nature of this activity, it merely adds to the existing airspace deconfliction problem, particularly at lower altitudes. Of that problem, the former CFACC, Lieutenant General Walter Buchanan III, in 2005 outlined a nightmare scenario: "My fear is the day will come when we have a C-130 full of troops and there will be [an Army] Scan Eagle, a Pioneer, or whatever [that] is going to come through the cockpit and take out a C-130 because we did not [properly] deconflict."[26]

In one offsetting good-news story, such divisive tendencies on the part of the two Services that make up CENTCOM's land component were resoundingly overcome by a collective sense of overarching need in mid-2004 during the planning workups for the second battle of Fallujah, in which one knowledgeable airman reported that the joint integration of fires would come to confront its "sternest test."[27] The going-in problem in this instance was that the 1st Marine Division and its attached DASC, which together would bear the brunt of the upcoming urban combat, lacked both a common doctrinal foundation with the joint Army-Air Force JFEC/ASOC/CAOC team described above and any past experience in working with army and air force combat assets. The problem was further exacerbated by the placement of the parent 1 MEF's operating boundaries south and west of Baghdad, which had the effect of creating a seam directly between the air force's ASOC and the marine corps' DASC in the busiest and most congested air operating area in central Iraq between Baghdad and Fallujah. Earlier during the summer of 2004, as deconfliction problems arose in connection with air support to coalition operations against the cleric Muqtada al-Sadr and his militia's uprising in Najaf, the DASC, ASOC, and CAOC had hammered together an altitude-based coordination scheme that was sufficient for a relatively small-scale engagement. There was widespread scepticism in all quarters, however, with respect to whether a similar low-altitude cap on marine-controlled air activity

26. Quoted in Marc V. Schanz, "Air Lessons from Fallujah," *Air Force Magazine Online*, October 27, 2005.

27. Colonel Howard D. Belote, USAF, "Counterinsurgency Air Power: Air-Ground Integration for the Long War," *Air and Space Power Journal*, Fall 2006, p. 58.

would work for the more demanding challenge presented by Fallujah.

The core issue here was that the senior marine air officer in the DASC insisted, with compelling force, that he needed control over *all* air activity above and around Fallujah, given the fact that closely-integrated marine air and ground force employment would predominate in that battlespace. For his part, the air force ASOC director replied, with equally compelling countervailing force, that, as recalled by a key participant, in order "to manage the air war throughout the rest of the country—to prevent insurgent attacks elsewhere from drawing combat power away from the main effort—as well as to adequately support the Fallujah fight and enable the CFACC to fulfill his responsibilities as airspace control authority for the entire area of operations, the ASOC needed complete visibility into the DASC's fight."[28] After months of often tense back-and-forthing over this issue, thanks in large measure to a steadily growing mutual trust relationship between the involved marine corps and air force principals, a deal was finally struck in which the marine air operations officer was cleared by the CFACC at the time, Air Force Lieutenant General Buchanan, to manage from the 1st Marine Division command post (with the assistance of a joint air-support liaison team directly at his side) all rotary- and fixed-wing sorties within 25 km of Fallujah and Ramadi, with the aerial fires controlled tactically by a mix of marine, navy, and air force joint terminal attack controllers within the city of Fallujah. Outside that agreed circle, the ASOC controlled a panoply of aircraft that eventually responded to 81 TIC declarations during the most intense two weeks of combat.

The plan ultimately agreed to, by an informed air force account, "was not a lowest-common-denominator compromise" but rather a carefully thought-out arrangement that was "based on the twin pillars of unity of command and transparency" and that "combined the best of two differing approaches to joint fires." In the ensuing arrangement, "the DASC and the MARDIV's [Marine Division's] operations officer for air controlled all aircraft that entered Fallujah but gave the ASOC unfettered access to all its network servers and

28. Belote, Ibid.

chat rooms, providing liaison officers around the clock and allowing ASOC officers and technicians to move air assets in anticipation of MARDIV requirements."[29] In the end, according to this account, "the Marines' DASC, Baghdad's ASOC, and the CAOC in Qatar jointly managed an air war that facilitated success in Fallujah."[30]

An unfortunate downside aspect of this transitory success story, however, is that once granted this exceptional measure of temporary control over marine air assets by the CFACC for the express needs of the impending Fallujah fight, the marines never gave it back after the momentary requirement for it went away. To this day since November 2004, the marines have continued to conduct, in effect, their own private air war out of Al Asad Air Base in the Iraqi western desert over which the CFACC has no tactical control.[31] Part of the explanation for the persistence of this violation of long-standing joint doctrine and practice is that the current CFACC, Lieutenant General Gary North, reports to the overall joint force commander rather than to the more local MNF-I commander. Moreover, although MNF-I has an attached ACCE, the principal war-fighting command in Iraq remains almost totally "green" in its personnel make-up and lacks both an air component and significant joint representation. Finally, with MNF-I's day-to-day operations planning conducted mostly at lower levels, it is doubly difficult for the CAOC to insinuate itself into that process in a significant way when it is physically so far removed from MNF-I headquarters.

Since November 2004, the marines have continued to conduct, in effect, their own private air war out of Al Asad Air Base.

With respect to the ongoing COIN war in Afghanistan, cross-Service cooperation has improved immensely in comparison to the plagued past

29. Ibid., pp. 58-59

30. Ibid., p. 63.

31. Conversations with CAOC staff, Al Udeid Air Base, Qatar, April 23, 2007. air force airmen readily admit that marine aviators are exceptionally competent at integrated air-ground command and control but note also that they have a smaller span of control than the CAOC, are more tactical in their thinking, and do not concern themselves with the theatre-wide deep battle.

experience of the earlier-noted Operation Anaconda in March 2002, when the army-dominated Combined Joint Task Force (CJTF) Mountain (which, in fact, was "combined" and "joint" in name only) failed to include the air component in its planning until the last possible moment and came close to producing a catastrophic outcome for itself as a result. In more recent years, combat operations in Afghanistan have involved a full-up ASOC that is under the operational control of the CFACC but is embedded with the army-centric CJTF staff, along with a thriving ACCE to represent the CFACC to the army CJTF commander. As for the downside, however, in marked contrast with the practice that prevailed during the major combat phase of Enduring Freedom in 2001 and 2002, in which the CAOC developed a daily master air attack plan and an ATO that proactively assigned targets to support the CJTF commander, current air operations in Afghanistan, as in Iraq, have the CAOC now focussed mainly on reactively servicing ASRs from friendly ground units for on-call CAS and sometimes for on-call airlift. In both Afghanistan and Iraq, the CAOC's practice continues to reflect the airman's preference for centralised planning and decentralised execution, whereas the development of daily courses of action by the land component typically reflects an approach in which subordinate commanders are freed to exercise initiative within their understanding of the commander's intent and in which major operational efforts are typically started as low as at the company level.[32]

As a result of this contrast in approaches to mission planning, sometimes the right hand is unaware of what the left is doing with respect to air operations. For example, as late as the summer of 2005, combat aircrews arriving on station overhead to support engaged or engaging friendly ground units in Afghanistan did not know who else was involved in the ongoing air-support arrangement, where the CAP stations of those additional aircraft might be positioned, what their altitudes were, and myriad other considerations that might help an air mission commander deconflict the involved air assets. This persistent shortcoming suggests a continuing need for better integration of the

32. Colonel Michael W. Isherwood, USAF (Retd), "Five Years After Operation Anaconda: Challenges and Opportunities," *Joint Force Quarterly*, Issue 47, 4th Quarter 2007, p. 142.

There remain systemic obstacles in the path toward optimal jointness that continue to make further progress anything but certain.

air component into CJTF operations planning. The encouraging news here is that the air component's in-place and active ASOC, ACCE, and Control and Reporting Centre allow the CFACC and his staff in principle to interact better at all levels in Afghanistan. The obvious downside is, as one airman with first-hand experience in that setting recently reported, that this process must continually "reconcile the realities that the air component planning is top-down while the land forces planning will be bottom-up."[33]

WHAT DOES THIS RECENT EXPERIENCE TELL US?

In my paper delivered at this forum three years ago, I argued that American combat forces had performed ever more effectively in joint warfare since Vietnam, thanks in part to inescapable operational necessity and in part to the willingness of the involved joint force commanders to rise above narrow Service interests in employing the most goal-maximising strategies. I further noted, however, that the countervailing pressures of Service parochialism had by no means gone away and that as a result, this laudable progress had been uneven and often turbulent. Finally, in reflecting on why harmonious joint-force employment has continued to be so problematic, I suggested that there remain systemic obstacles in the path toward optimal jointness that continue to make further progress anything but certain. Because of those obstacles, I added, all the agreed formal joint doctrine, joint operating manuals, and joint tactics, techniques and procedures in the world will never, in and of themselves, ensure the achievement of full jointness in military operations. On the contrary, the only effective guarantee of that noble goal will be the continued inculcation of mutual respect and trust among the involved component commanders and a determination by joint force commanders to place objective mission needs above parochial instincts born of their Service upbringing.[34]

33. Isherwood, Ibid., p. 145.

34. Benjamin S. Lambeth, "Jointness in Air Warfare: The American Experience," paper prepared for

Those propositions, I believe, have been amply borne out by subsequent American experience as reflected in the varied illustrations, both positive and negative, that were offered in the preceding discussion. To begin with, those instances of arrested progress along the road to full jointness well attest to the essential correctness of retired US Air Force General Charles Horner's observation that "jointness would seem to be simple to achieve when in fact it is not." Although the formulation and application of the most rational approaches to the challenges facing today's joint force commanders would appear, at bottom, to be a matter of mere common sense, that quest unfortunately continues to be frustrated by such systemic obstructions identified by General Horner as the persistent influence of often inappropriate Service doctrines, the force of habit born of years of incessant Service acculturation, honest ignorance of better alternatives, and the natural inclination of key players to opt for assured ownership of assets rather than to bank on blind trust in joint partners to do the right thing in the joint force's interests. Such examples as the abortive V Corps attempt to stage a go-it-alone Apache helicopter assault against a forewarned enemy ground-force contingent and the recurring intercomponent tug-of-war over the placement of the FSCL during the major combat phase of Operation Iraqi Freedom, as well as the continuing intercomponent contest for ownership and control of UAV operations and the marine corps' insistence on conducting autonomous air operations in the ongoing COIN war in Iraq, offer living testaments to the power of these negative influences as barriers along the road to full jointness.

The clear success story of air force-navy integration in strike warfare since Desert Storm offers convincing testimony to such factors conducive to jointness identified by General Horner.

By the same token, the clear success story of air force-navy integration in strike warfare since Desert Storm offers convincing testimony to such factors conducive to jointness identified by General Horner as solutions-oriented

the 11th International Air Strategy Symposium on the subject of "Jointness: History, Command and Control, Targeting, and Operations," Korea Air University, Daejeon, South Korea, September 7-8, 2005.

The overarching challenge now confronting all concerned parties is to take the next step toward truly seamless joint operations, namely, "the move from Service interoperability to Service interdependence".

joint-force organisational arrangements, the cumulative seasoning and insights provided by repeated joint exercises both in peacetime training and in combat, and the inherent power of successful experience as an incentive for continuing to apply proven solutions that obviously work. That, along with the above-cited examples of harmonious joint air-land operations in Iraq since 2003, bears witness to two more of General Horner's informed axioms: (1) the extent to which military operations will be genuinely "joint" will hinge largely on the willingness of senior on-scene commanders to do the right thing by employing "the optimum blend of force capabilities to achieve success", and (2) "the more dire the situation, the greater [will be] the motivation for leaders to consider alternative forces and strategies that lead to true 'joint' operations."[35]

Surely there is room for more creative thought about best ways of achieving greater synergies between and among joint forces than merely continued point-counterpoint arguments about the relative value of the air and land components. Among the first of any such touchstones of better thinking should be a collective *a priori* recognition that (1) no single component or force element can routinely be expected to "go it alone" in joint operations; (2) at least in some circumstances, the air component may be the swing factor in determining the outcome of *specific events*; and (3) joint force commanders should, in all instances, let mission needs determine which force elements will predominate in any given situation.

In the interest of encouraging further progress along the rocky road toward full jointness, US Air Force Lieutenant General David Deptula

35. General Charles A. Horner, USAF (Retd), "Joint Operations: An Air Component Commander's Perspectives," paper prepared for presentation at the 14th International Air Strategy Symposium on the subject of "Jointness: A War Experience" held at Korea Air University, Daejeon, South Korea, September 25, 2008.

recently suggested that the overarching challenge now confronting all concerned parties is to take the next step toward truly seamless joint operations, namely, "the move from Service interoperability to Service interdependence."[36] Good Service interoperability was all but perfectly epitomised by the example discussed above of mature air force-navy integration in strike warfare. For full-fledged Service and component *interdependence* to emerge, however, the existing compulsion on the part of all protagonists toward jealously-guarded ownership of assets and assumed prerogatives, on the premise that "what's mine is mine and what's yours is joint," will need to yield eventually to a willingness on the part of all joint-force components to trust the promised offerings of their partners in other components. That trust, moreover, will have to be earned and validated the hard way—by repeated banner performance by those joint-force elements in which such faith and trust would be invested.

In pursuing this worthy goal of Service interdependence, the various interested players might do well also to consider that the continuous back-and-forthing that has gone on in the inter-Service contretemps over which force element in joint operations should be designated as "supported" and which as "supporting" has reflected a decidedly unhelpful way of thinking about the proper relationships among the affected components. Granted, the "supported/supporting" construct has an important basis in delineating formal component responsibilities in joint operations. As such, it will always figure to some extent in intercomponent division-of-labour deliberations. Yet from a more overarching strategic perspective, a more solutions-oriented approach would appear to be one that deemphasises the question of who is "supported" or "supporting" and that focusses instead on unity of effort in getting the task at hand accomplished as efficiently and effectively as possible. Categorical assertions such as the parochial claim that even with today's air-component capability improvements, "air power plays largely a supporting role in fighting insurgency and terrorism" beg the overarching question of

36. Lieutenant General David A. Deptula, USAF, "Toward Restructuring National Security," *Strategic Studies Quarterly*, Winter 2007, p. 11.

"supporting of *what*?"[37] *All* combatant elements, as appropriate in varying circumstances, "support" the pursuit of the joint force commander's desired effects in joint warfare.

In doing their part toward pursuing a more cooperative spirit in the joint arena, airmen should feel no compulsion to press for air-centric solutions for all circumstances. Like their fellow combatants in other components, they should instead recognise and accept that in some circumstances, air power can swing desired joint-force outcomes all by itself; in others, it will be supporting of other force elements; and in still others, it may be all but irrelevant to mission needs. At the same time, would-be detractors of air power's full range of potential offerings have an obligation, for their part, to understand that the interests of interdependent combat operations will *never* be served until air power is duly accepted as co-equal to all other force elements, neither more nor less pivotal in and of itself but a vital participant the joint effort, with the extent of its leverage and promise depending on mission needs of the moment.

Unfortunately, the achievement of such a desirable metamorphosis will forever remain at least easier said than done if not perennially elusive. Merely the power of a compelling idea by itself will never suffice to effect the needed transition. In each case, the implementation of a truly interdependent joint-force approach will ultimately require the dominating presence of a pragmatic joint force commander who will be not merely willing but determined as a matter of highest principle to assemble and oversee the execution of a plan of action that, in General Deptula's words, applies "the appropriate capabilities, at the right place, [and] at the right time to create the desired effect."[38]

37. James S. Corum, "Aerospace Power in Current and Future Small Wars," in James G. Fergusson, ed., *Aerospace Power: Beyond 100 Years of Theory and Practice* (Winnipeg, Manitoba: Centre for Defence and Security Studies, University of Manitoba, Silver Dart Canadian Aerospace Studies Vol I, March 2005), p. 79.

38. Deptula, n.36, p. 12.