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COMBAT PAIR

THE EVOLUTION OF
AIR FORCE-NAVY INTEGRATION
IN STRIKE WARFARE

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Prepared for the United States Air Force

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Summary

During the more than three decades that have elapsed since the war in Vietnam ended, the U.S. Air Force and U.S. Navy have progressively developed a remarkable degree of harmony in the integrated conduct of aerial strike operations. That close harmony stands in sharp contrast to the situation that prevailed throughout most of the Cold War, when the two services lived and operated in wholly separate physical and conceptual worlds, had distinct and unique operating mindsets and cultures, and could claim no significant interoperability features to speak of. Once the unexpected demands of fighting a joint littoral war against Iraq in 1991 underscored the costs of that absence of interoperability, however, both the Air Force and the Navy quickly came to recognize and embrace the need to change their operating practices to accommodate the demise of the Soviet threat that had largely determined their previous approaches to warfare and to develop new ways of working with each other in the conduct of joint air operations to meet a new array of post-Cold War challenges around the world.

In the realm of equipment, the Navy in particular upgraded its precision-strike capability by fielding both new systems and improvements to existing systems that soon gave it a degree of flexibility that it had lacked throughout Operation Desert Storm, when its aviation assets were still largely configured to meet the very different demands of an open-ocean Soviet naval threat. 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), which by

that time had become the established mission planning tool for large-scale air operations. 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. For its part, the Air Force also embraced the new demands and opportunities for working more synergistically with its Navy counterparts both in peacetime training and in actual combat, where joint-force commanders stood to gain from the increased leverage that was promised by their working together more closely as a single team.

The single most influential factor that accounted for bringing the two services ever closer together in strike-warfare tactics, techniques, and procedures (TTPs) in this manner was the nation's ten-year experience with Operations Northern and Southern Watch, in which both Air Force land-based fighters and Navy carrier-based fighters jointly enforced the United Nations (UN)–imposed no-fly zones over northern and southern Iraq that had first been put into effect shortly after the conclusion of Operation Desert Storm. That steady-state aerial policing function turned out to be a real-world operations laboratory for the two services, and it ended up being the main crucible in which their gradual merger of operational cultures and styles was forged.

To be sure, despite this steady trend toward more harmonious Air Force–Navy cooperation, some lingering cultural disconnects between the two services persisted for a time throughout 1990s, most notably with respect to continued Navy discomfiture over having to operate within the framework of the Air Force–inspired ATO and the uneven way in which, at least in the view of many naval aviators, that mechanism made less than the most effective use of the nation's increasingly capable carrier-based forces. Nevertheless, the results of this steady process of integration were finally showcased by the near-seamless Air Force and Navy performance in their joint conduct of integrated strike operations in the largely air-centric war in Afghanistan in late 2001 and early 2002.

The uncommonly close meshing of land- and sea-based air involvement in that first round in the global war on terror, as well as the unprecedentedly prominent role the Navy played in the planning and conduct of the war, bore witness to a remarkable transformation

that had taken place during the years since Desert Storm by way of a gradual convergence of Navy and Air Force thinking with respect to the integrated use of their air assets. Much energy was wasted during the early aftermath of Operation Enduring Freedom in parochial fencing between some Air Force and Navy partisans over which service deserved credit for having done the heavier lifting in the war, with Air Force advocates pointing to the preponderance of overall bomb tonnage dropped by the Air Force and with Navy proponents countering that it was carrier-based aircraft that flew the overwhelming majority of combat sorties. To say the least, that verbal sparring was completely unhelpful to a proper understanding of what integrated Air Force and Navy air operations actually did to produce such a quick allied win over the Taliban. At bottom, it remains an irrelevant toss-up as to which of the two services predominated in the precision-strike arena. Both brought indispensable combat capabilities to the joint effort. Any argument over whether Air Force or Navy air power was more important in achieving the successful outcome is tantamount to arguing over which blade in a pair of scissors is more important in cutting the paper.

The three-week campaign a year later to topple Saddam Hussein's regime in Iraq once again spotlighted the extent of operational integration that the two services had achieved in the conduct of joint air warfare since the first Gulf War of 1991. Operation Iraqi Freedom set a new record for close Navy involvement with the Air Force in the high-level planning and conduct of joint air operations. The five carrier air wings that took part in the campaign were better integrated into the ATO process than ever before, and the air war's deputy commander was a Navy two-star admiral. In all, the performance of Air Force and Navy strike assets in the first two American wars of the 21st century was replete with examples attesting to the giant strides that had been made in the integration of the two services' air warfare repertoires since Desert Storm. Both wars showed increased Air Force and Navy acceptance of effects-based thinking and planning, as well as a common use by the two services of the joint mission planning tools that had been developed over the previous decade and a half.

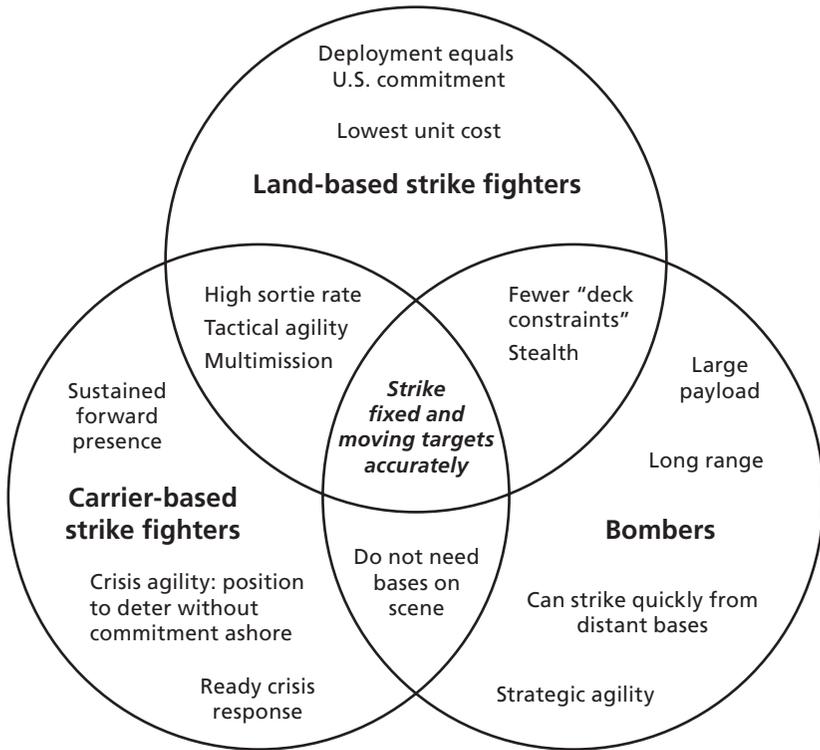
These real-world experiences suggest that the Air Force and naval aviation should now consider each other natural allies in the roles and

resources arena, since they did not compete but rather mutually supported and reinforced one another in the achievement of joint strike-warfare goals. Indeed, when viewed from an operational rather than a bureaucratic perspective, the Air Force's and Navy's capabilities for air-delivered power projection are, and should be duly regarded as, complementary rather than competitive in the service of joint-force commanders, since land-based bombers and fighters and carrier-based fighters are not duplicative and redundant but rather offer overlapping and mutually reinforcing as well as unique capabilities for conducting joint warfare. Rather than continuing to engage in pointless either/or arguments over the relative merits of carrier versus land-based air power, Air Force and Navy proponents should instead be using their recent shared combat experience as a model for seeking ways to increase the synergy of their collective triad of long-range projection forces consisting of bombers, land-based fighters, and sea-based fighters that, taken as a whole, make up the nation's overall air power equation. (Figure S.1 graphically depicts this emergent synergy.)

By the candid admission of key leaders in both services, this process of integration in air warfare still has further headway to make before it will have realized its fullest potential. Nevertheless, it has advanced over the past decade and a half to a point where the air warfare arena is now by far the most developed realm of air-naval integration in the nation's joint-operations repertoire. Indeed, it constitutes an object lesson for the Air Force and Navy in the sorts of closer integration that can be successfully pursued by the two services in other mission areas where the air and maritime operating mediums intersect, as well as by the Air Force and Army in the air-land arena.

As for remaining areas where further work might be done by each service in the interest of closer air warfare integration, senior Air Force and Navy leaders have often cited continued communications problems and bandwidth-management shortcomings as one important set of challenges in need of continued attention. Another persistent sore spot between the Air Force and Navy, at least from the latter's perspective, concerns a rapidly looming problem in the electronic

Figure S.1
Attributes of Different Forms of Air Power



RAND MG655-S.1

warfare mission area. When the Air Force decided to retire its aging EF-111 electronic jammer aircraft not long after Operation Desert Storm, the Navy and Marine Corps picked up the tactical electronic attack mission with their now greatly overworked EA-6B Prowlers, with the result that those aircraft became, to all intents and purposes, high-demand/low-density national assets. That arrangement has worked satisfactorily until now, but the EA-6Bs are rapidly running out of service life, the first replacement EA-18G Growlers will not enter fleet service until 2009, and the interservice memorandum of agreement that made the Navy the lead service in the provision of standoff jamming after Desert Storm expires in 2011. Accordingly, senior Navy leaders main-

tain that the Air Force will soon have to decide, conjointly with the Navy, what it intends to do by way of proceeding with timely gap-filler measures.

Still other possible joint ventures worth exploring in the training arena by the Air Force and Navy might include

- more recurrent exercises between the two services as focused instruments for spotlighting persistent cross-service friction points, to include greater Air Force involvement in Navy carrier air wing predeployment workups at Naval Air Station (NAS) Fallon and more Navy participation in Air Force Red Flag and other large-force training evolutions
- greater joint reliance on distributed mission simulation, which will entail high buy-in costs but can offer substantial long-term payoffs as fuel and associated training costs continue to soar
- a more holistic look at the joint use of training ranges, perhaps with a view toward ultimately evolving to a truly national range complex
- more comprehensive joint use of realistic adversary threats in training, not only in air but also in space and cyber operations
- extending integrated air warfare training to the surface and sub-surface Navy
- enlisting the real-time involvement of air operations centers worldwide.

Many such initiatives are already being cooperatively pursued, or at least carefully considered, by the Air Force Warfare Center at Nellis Air Force Base (AFB) and the Naval Strike and Air Warfare Center at NAS Fallon, Nevada, with the primary limiting factor being insufficient funds to support them. As for additional areas of possible closer Air Force and Navy cooperation that pertain more to investments in equipment and hardware capability, the two services could usefully consider

- continued pursuit of ways of bringing their connectivity systems into closer horizontal integration

- greater attention to exploiting the promise of new electronic warfare means in joint warfare
- getting the greatest operational leverage for the least cost out of the high-commonality F-35 multirole combat aircraft that both services will be acquiring in the coming decade
- further coordination in setting agreed-on integration priorities.

Finally, a possibly high-payoff measure that would cost nothing beyond a determined Air Force and Navy effort to devote the right talent to it would entail a careful review of the accumulated base of documentation regarding all peacetime exercises and actual combat experiences of the two services over the past decade in search of identifiable friction points in integrated operations that were experienced and that may remain in need of attention and correction. Such an assessment could well illuminate previously unexplored areas of activity that could help move both services a step further toward achieving a fully mature joint strike-warfare repertoire.

Even with this much room remaining for further progress by the two services, however, the overall record of Air Force and Navy achievement in integrated strike-warfare planning and operations has been a resounding good-news story that is a credit to each service both separately and together. Air Force and Navy strike-warfare capabilities and repertoires have become almost seamlessly intertwined over the past three decades in a way, and to an extent, that cannot be said yet of any other two U.S. force elements. As such, they represent a role model for what can be done along similar lines elsewhere, not just in the interface between the air and maritime domains but even more so between the Air Force and Army when it comes to the most efficient conduct of joint air-land operations. Today, such commonality of purpose at the operational and tactical levels has become more important than ever as the nation finds itself increasingly reliant on the combined-arms potential that is now available to all services in principle for continuing to prosecute the global war on terror, while hedging also against future peer or near-peer competitors at a time of almost unprecedented lows in annual spending for force modernization.