

# The Evolution of Joint Warfare

By WILLIAMSON MURRAY



British landing in  
Egypt, 1801.

Courtesy Special Collections, NDU Library

**J**oint warfare is largely a phenomenon of the last century. Yet ever since the 17<sup>th</sup> century, as Western militaries developed into professional, disciplined institutions responsive to their rulers, many states have sought to project power abroad. Technology has increasingly shaped the conduct of war, forcing

the use of military capabilities in concert. That is a complex process, not because of obstacles posed by individual service cultures alone, but because the evolution of joint warfare poses intractable problems. Moreover, such capabilities can require levels of spending that cannot be allocated to the military in peacetime.

## The Continental Powers

Of the emerging states in the early 1700s, England had the greatest tradition of cooperation between land and

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sea forces. That nation originated with the invasion of William the Conqueror which brought the Normans to power. His descendants, particularly Edward III and Henry V, used domination of the English Channel and adjacent waters to invade the Continent, which came close to destroying France. While impressive, one cannot speak of those campaigns as joint warfighting because military institutions of the day were not professional or permanent. Perhaps one exception was the Battle of Sluys in 1340, when Edward III launched a fleet with archers bearing longbows to slaughter the French, leading to an era in which “Edward was lord of the sea.”<sup>1</sup>

Nevertheless, it was only with the end of the 16<sup>th</sup> century that Europeans began thinking in terms of joint cooperation. The destruction of the Spanish Armada in 1588 underlined the perils in coordinating forces on land and at sea. Planning an expedition in Madrid and moving a fleet in the Channel with armies in the Low Countries proved overwhelming. Such a combination had worked against tribal levies of American Indians, who had stone-age weapons and no knowledge of firearms, while diseases spread by the Spaniards killed those natives who survived combat. But Spain was unprepared for the complexity of land and sea warfare against a European power. Such difficulties were exacerbated by the skillful leadership of British maritime forces, and unfamiliarity with the Channel inevitably turned the great expedition launched by Philip II into a failure.

By the mid-17<sup>th</sup> century a number of European states, led by Holland and Sweden, created recognizable armies and navies that were responsive to war ministries and admiralties. The major ingredient in the rise of these institutions was intense competition for hegemony on the Continent, a struggle in which growing and disciplined armies grappled for domination. But as the century unfolded Europeans found themselves vying for empire. At first the competition involved navies contending for maritime supremacy, but at the end of the



Storming Badajoz Castle, 1812.

Courtesy Special Collections, NDU Library

century more significant colonies like the Sugar Islands in the Caribbean boasted grand fortifications and garrisons. France and England emerged as great powers competing for empire by the dawn of the 18<sup>th</sup> century. At the same time the army of Louis XIV threatened the balance of power. The War of Spanish Succession broke out in 1702 and was the first world war. On the Continent, the Duke of Marlborough, with Dutch and Hapsburg allies, won a number of victories that rocked the French monarchy. London waged war at sea for supremacy over the Atlantic and Mediterranean while contesting control over North America, the Caribbean, and India. English colonists in North America called this conflict Queen Anne's War after the sovereign. Neither nation could project ample power beyond Europe to win decisively, but the war was the opening round in a struggle that lasted the rest of the century.

### The New World

The Seven Years War—known as the French and Indian Wars in North America—decided which nation was the dominant power outside Europe. It also resolved that English would become the dominant world language. Moreover, it was the first instance in

which naval power projected land forces over great distances, supported them, and prevented an enemy from being reinforced. From an American point of view, the decisive campaign occurred in 1756 when the British under James Wolfe besieged Quebec. Historians argue that the fate of North America was decided on the Plains of Abraham when Wolfe defeated Montcalm. In fact, British forces occupying Quebec City spent a winter near starvation and under threat of attack from the French in the province. Yet when the spring thaw melted the ice on the river, the Royal Navy, with substantial reinforcements, sailed into the Gulf of St. Lawrence before the French, and the fate of North America was sealed.

The capacity to employ land and naval forces together over great oceanic distances allowed the British empire to survive the strategic and political ineptitude demonstrated in its war against the American colonists in the 1770s. Control of the sea and the ability to extend power almost at will could not overcome errors made by Lord Frederick North. Despite projecting great armies across the Atlantic, the British could not stifle the independence movement. The capture of New York in 1776—by means of a real

joint operation—and the offensive across New Jersey almost destroyed the revolutionary army. Nevertheless, General George Washington and his forces survived, and the campaign in the next year that launched the British under Sir William Howe against Philadelphia also left the invasion of upper New York by General John Burgoyne in the lurch, leading to defeat at Saratoga. The die was cast when other powers intervened. Nevertheless, the union of land and seapower extended British control from the Caribbean to India against a great coalition.

Basil Liddell Hart characterized the approach by London in this period as the British way of war. But as Sir Michael Howard pointed out, Britain was only successful when its opponents in Europe fought a continental and overseas war, which demanded the commitment of substantial land forces. France failed throughout the 18<sup>th</sup> century because its leaders were unclear on which war was being fought. In attempting to fight both, they lost both. French revolutionaries in 1789 and Napoleon had clear goals, largely involving conquest on the Continent. British amphibious expeditions against French-controlled territory were dismal failures, at least until the war in Spain. Joint warfare only worked in distant places in efforts to grab French possessions or areas removed from French power. Joint, in this context, meant

### the Civil War saw the first genuine joint operations because of the riverways of the west

landing troops at some distance from an enemy and then supplying them by sea. But when Britain committed forces and a first class general to the Continent, it had a major impact on the strategic position of France. The Peninsula War against the French in Spain was one of the few instances of jointness in the Napoleonic era.

#### North and South

The Civil War saw the first genuine joint operations—an approach that developed because of the geographic situation, namely, the riverways of the west. At the outset, the



Admiral David Porter.

Naval Historical Center

Union dominated the maritime balance, which allowed Lincoln to impose a blockade on the Confederacy and control offshore forts. In the spring of 1862, General George McClellan launched a seaborne attack on the Yorktown Peninsula. The Navy landed troops and supported the Federal advance on Richmond. At that point a series of blows launched by General Robert E. Lee drove Union forces back down the Yorktown Peninsula.

U.S. gunboats rendered signal service by stopping an enemy assault on Malvern Hill, inflicting horrendous Confederate losses. Nevertheless, there was only rudimentary jointness during these engagements.

The western theater was the scene of real jointness on the Mississippi, Ohio, Cumberland, and Tennessee Rivers which offered deep avenues for Union forces. The fall of Forts Donelson and Henry to General Ulysses S. Grant in winter 1862 opened Kentucky, Tennessee, and northern Mississippi to Muscle Shoals in Alabama to

the projection of Army forces by the Navy. Grant secured access to the southern heartland in one brilliant move. The victories at Forts Donelson and Henry gave the North an advantage in the West from which the South never recovered. It took close cooperation between Navy officers who ran the gunboat fleet and Army commanders to use this edge to the fullest. The importance of that cooperation was underlined in April 1862 when Union vessels reinforced Grant with troops under General Don Carlos Buell at Shiloh. Joint cooperation developed in 1862 was crucial to the campaign against Vicksburg in spring 1863. Admiral David Porter dashed past the defenses at Vicksburg in April, which allowed Grant to cross the Mississippi to the south and begin the most impressive campaign of the Civil War, which resulted not only in the capture of Vicksburg but of an entire Confederate army in the field.

#### The Great War

Joint warfare existed primitively and under specialized conditions before 1900. It became increasingly crucial with a fitful start in World War I. The Dardanelles campaign, which Winston Churchill launched over strong opposition from Admiral Sir John ("Jackie") Fisher, failed largely because the British army and navy could not cooperate. This dismal example of jointness on the tactical and operational levels resulted in the collapse of the one strategic alternative to slugging out the war on the Western Front with an enormous cost in men and matériel.

One area of joint cooperation on the tactical level did enjoy significant success. By 1918 both the Allies and Germany were using aircraft to support ground attacks. The Germans actually designated close air support squadrons, specially equipped and trained for the Michael Offensive in March 1918. Similarly, the British supported tanks and infantry with air in the successful attack of August 1918—which General Eric Ludendorff described as the blackest day in the war, especially because



German maneuvers in Bavaria, 1931.

National Archives

techniques except communications. The navy was just as unenthusiastic. The Deputy Chief of Naval Staff, Admiral Andrew Cunningham, who eventually commanded naval forces in the Mediterranean, reported that “the Admiralty at the present time could not visualize any particular [joint] operation taking place and they were, therefore, not prepared to devote any considerable sum of money to equipment for [joint] training.”<sup>3</sup> Finally, the Chief of the Imperial General Staff, Lord John Gort, declared that the railroad enabled landpower to be concentrated more rapidly than seapower. Thus the strategic mobility conferred by seapower, while politically attractive, would no longer work in favor of seapower. Such attitudes go far in explaining the disastrous conduct of the Norwegian campaign.

The American record is much better in several respects. The nascent air service, which was a branch of the Army administratively (first as the Army Air Corps, then as the Army Air Forces), displayed much the same disregard for past experience as did the Royal Air Force in Britain; it was uninterested in cooperating with land or naval forces. In the sphere of joint amphibious doctrine, however, the United States was ahead of other nations, undoubtedly because of the peculiarities of its military organization. The Department of the Navy had its own land force, the Marine Corps, and because no unified air component had been created, both the Navy and Marines had air assets. Maritime strategists considered joint amphibious operations by the realities of distance in the Pacific. It was clear that amphibious capabilities would be needed to seize logistic bases in the region.

The Marines led the effort on amphibious warfare throughout this period. By the outbreak of World War II, the Corps developed doctrine and procedures with considerable cooperation from the Navy and some help from the Army. Although the equipment required for such operations had not been fielded, the services had established a conceptual basis for joint amphibious operations.

of the “increased confusion and great disturbance” air attacks caused the ground troops.<sup>2</sup> However, only the Germans learned from such experiences in the joint arena.

There was more movement toward creating joint capabilities in the interwar period, though there were major differences among nations. In Germany, the *Luftwaffe* became a separate service in 1935. Its leaders showed considerable interest in strategic bombing from the outset, but they also supported other missions. As a result, they devoted substantial resources to capabilities to assist the army in combined-arms mechanized warfare. At the same time the navy and air force exhibited virtually no interest in working together, the results of which were evident in World War II.

The British organized the only joint higher command during the interwar years, the Chiefs of Staff Subcommittee. On the other hand, the military proved unwilling to develop joint doctrine and capabilities. The

Royal Air Force, fearing that joint cooperation would end its independence as a separate service, wrote such exclusionary basic doctrine on strategic bombing that real teamwork among services hardly existed. When war came in 1939, the air force proved quickly that it could support neither land forces with interdiction attacks nor maritime forces in protecting sea lines of communication in the Atlantic. In addition, the air force provided the navy with carrier aircraft that were obsolete in comparison to American and Japanese planes.

But the other services were hardly more forthcoming than the Royal Air Force. In 1938 the commandant of the Royal Navy Staff College raised the possibility of joint amphibious operations, which met with total rejection. The attitudes of senior officers ranged from a smug belief that such operations had been successful in the last war to plain confidence that they would not be needed again. The Deputy Chief of the Air Staff argued that Gallipoli revealed that nothing was really wrong with amphibious



Casablanca conference, 1943.

U.S. Army

## World War II

It is almost as difficult to extol joint warfare conducted by the Axis as combined warfare. Germany, with its ability to cooperate on the tactical level, achieved stunning results at the start of World War II. But the invasion of Norway, Operation *Weserübung*, was in large part the result of British bungling. The Germans lacked joint strategy or, for that matter, joint operational concepts. Planning for Operation *Sealion* in summer 1940—the proposed invasion of Britain—displayed no common concept of operations or even common language. Matters never improved. There was no joint high command—the Armed Forces High Command, *Oberkommando der Wehrmacht*, was little more than an administrative staff that supported Hitler. General Walter Warlimont, one of its members, noted: “In fact the advice of the British Chiefs of Staff and the U.S. Joint Chiefs was the deciding factor in Allied strategy. At the comparable level in Germany, there was nothing but a disastrous vacuum.”<sup>4</sup> This situation was as much due to interservice rivalry as to *der Führer*.

The same was true for the other Axis forces. In the case of Italy, the so-called *Commando Supremo* exercised no real power over the services, which waged three separate efforts. The result was that the Italian military never proposed sound strategic or operational alternatives to a regime which in its ideo-

## U.S. joint operations reached their highpoint in the Pacific

logical fog did not balance available means with attainable ends. Things were no better in Japan which had no joint high command. Without higher direction, the Imperial army and navy waged two separate wars until their misfortunes in early 1944. Thereafter, the preponderance of American strength was such that it mattered little what Japan did or did not do.

The conduct of joint warfare by the Allies was on a different plane. On the strategic level, the organizational structure for analyzing strategic and

military problems that the British had created before World War II played a major role. The system was not so impressive in the early years, but that was largely due to overwhelming Axis strength. But Britain was able to set the conditions for the recovery of Western fortunes once the United States entered the war. The analytic

power of the system persuaded America to embark on major operations in the Mediterranean, a commitment that was fundamentally counter to Washington’s view of the war. The success of this approach by London to a joint articulation of strategy, particularly at the Casablanca Conference, led to the establishment of the Joint Chiefs of Staff and an organizational approach that emphasized jointness on the operational level.

U.S. joint operations reached their high point in the Pacific. The tyranny of distance meant that the services had to work together to project military power. In the Southwest Pacific, General Douglas MacArthur advanced up the coastline of New Guinea with the superb support of Fifth and Thirteenth

Recon platoon,  
Vietnam, 1967.



U.S. Army (Howard C. Breedlove)

Air Forces under General George Kenney as well as naval components. By conducting joint operations, MacArthur kept the Japanese permanently off guard. Similarly, after the losses at Tarawa alerted Admiral Chester Nimitz and his commanders to the problems of opposed landings, the Central Pacific island-hopping campaign emerged as one of the most impressive operational-level campaigns of the war, especially the cooperation displayed by soldiers, sailors, and marines. The result was seizure of bases in spring 1944 which Army Air Force strategic bombers used for their attacks against the Japanese homeland.

The situation in Europe was similar. By spring 1944 the Allies developed the capabilities to enable the most complex joint operation of the war—an opposed landing on the coast of France. Cooperation was not always willingly given. The American and British strategic bomber communities struggled in March 1944 to escape being placed under the operational command of General Dwight Eisenhower. They lost because Eisenhower was willing to appeal to Roosevelt and

Churchill. Eisenhower and his deputy, Air Marshal Arthur Tedder, then used air forces, including strategic bombers, to attack transportation across France. By June 1944 the transport system was wrecked; in effect the Germans had lost the battle of the buildup before the first Allied troops landed.

Joint operations were less successful on Omaha Beach, where U.S. casualties were three times heavier than those suffered at Tarawa six months earlier. General George Marshall had been impressed by landings in the Pacific. Consequently, he detailed the commander of 7<sup>th</sup> Division at Kwajalein, Major General Pete Corlett, to pass along lessons learned. However, when he arrived in Europe, Corlett discovered that Army commanders responsible for Overlord had no interest in learning from “a bush league theater.”<sup>5</sup> The result was that soldiers who went ashore at Omaha received twenty minutes of naval gunfire support from one battleship (whereas the enemy garrison at Kwajalein had been bombarded by no less than seven battleships). The landing at Omaha came perilously close to defeat, which might have led to the failure of Overlord.

## Postwar Period

When World War II ended, Allied forces were poised to launch the largest joint operation in history—Olympic, the invasion of Japan—which would have dwarfed even Overlord. By then jointness had peaked. Unfortunately, such cooperation would not be equaled until Desert Storm in 1991. Many factors were at work. The first was the advent of nuclear weapons, which changed war to such an extent that many leaders, particularly airmen, believed the lessons of World War II were no longer valid. Secondly, those who had conducted the war in Europe came to dominate the postwar military, and that theater had seen less joint cooperation than the Pacific. Finally, while joint cooperation had reached significant levels, it was largely the result of operational and tactical requirements. The peacetime culture of the prewar military returned. Thus General Omar Bradley, who became Chairman in the late 1940s, in an effort to eviscerate the Marine Corps in the name of jointness, announced that there would never be another major amphibious operation.

The Key West Agreements, which were the result of interservice bickering, determined the course of joint operations until the Goldwater Nichols Act. They represented a weak compromise between the Army belief in a strong joint community and the Navy and Marine Corps desire for service communities. But to a certain extent the Army undermined its own position by attempting to eliminate the Marine Corps from the equation. Moreover, the establishment of the Air Force, with a corporate culture that denigrated all roles and missions except strategic bombing, a concept which was reinforced by nuclear weapons, did little to advance cooperation.

Jointness after Key West was unimpressive. The Air Force resisted supporting land forces throughout the Korean War. The Army and Marine Corps cooperated when necessary, but hardly waged what could be termed *joint operations* on the ground. Part of this predicament can be traced to the nature of the conflict during its final two years,

as Washington was willing to accept stalemate. Nevertheless, the services very often put American lives at risk in pursuit of parochial goals.

Vietnam was no better. A key factor in the mistaken assumptions which the United States entertained in summer 1965 were service perspectives that prevented the Joint Chiefs of Staff from speaking coherently or giving joint strategic and operational advice. Two tactical air forces waged independent campaigns. Air Force fighter bombers, flying mostly from Thailand, attacked in and around Hanoi. Naval aircraft from carriers in the Gulf of Tonkin limited themselves to targets near Haiphong and the North Vietnamese coast. But there was minimal

### **the Goldwater-Nichols Act made joint assignments an essential step in promotion to general and flag rank**

joint cooperation, which resulted in mounting losses in an air campaign which had minimal focus.

Jointness in the ground war was also problematic. The nominal theater commander, General William Westmoreland, deployed Marine units in central Vietnam instead of using them in the Delta where amphibious capabilities would have been more effective. The Air Force dropped tons of ordnance across South Vietnam but paid relatively little attention to the requirements of land forces. While close air support often proved crucial to soldiers and marines, the Air Force considered it in terms of what was most convenient to a mechanistic view of war and measures of effectiveness rather than what would be most helpful to land forces under attack.

When the war ended in early 1973, the U.S. military was in shambles. Poorly disciplined, riven by racial strife, disheartened by defeat, and reviled by civilian society, each service had to put its own house in order during a period of downsizing, fiscal constraints, and changing missions. It is not surprising that redressing weaknesses in jointness

was not a high priority, especially in light of other problems. In spring 1980 the United States launched a raid to rescue embassy personnel held hostage in Iran. Luckily for most of the participants, the raid failed before it really began with the disaster at Desert One. But whatever the outcome, the planning and execution of the operation underscored a lack of cooperation among the services, weak command that was anything but joint, and a service focus that was inexcusable to most Americans.

The presidency of Ronald Reagan saw increased defense budgets and military capabilities. But the performance of joint operations left much to be desired. In autumn 1983 the United States intervened in Grenada, ostensibly to liberate American medical students, but in fact to prevent Cuba from helping a revolutionary regime solidify its hold on the island. Given the power brought to bear on that small locale, there was never any question of failure. However, the services once again appeared to focus on parochial interests rather than the larger joint picture.

The Constitution gives Congress responsibility for every aspect of national defense except command, yet that body rarely involves itself on a theoretical or organizational level. For the most part it is content to bicker with defense witnesses and divvy up military spending among districts and states. Nevertheless, Congress sometimes intervenes, usually when the executive branch does not resolve a national security matter. Pressure from Capitol Hill that resulted in Army and Navy reforms at the turn of the century and the Morrow Board in the mid-1920s are both cases in point. The latter resolved that there would be no independent air service and that airpower would remain divided between the two services. This was the situation in the 1980s as Congress, upset by the lack of progress in enhancing jointness, passed the Goldwater-Nichols Act. That legislation would change the relationship between the Chairman and service chiefs, providing the former with greater authority, and granting wider

powers to the unified commanders. It also made joint assignments an essential step in promotion to general and flag rank.

### **Where Do We Go from Here?**

The Armed Forces are facing rapid change. Some contend that technological advances are revolutionary and will allow the military to detect enemies from afar and destroy everything that moves. Some even contend that technology can remove the fog of war. But such possibilities are unlikely because they defy modern science and what science suggests about the world.

Nevertheless, technologists do have a point: modern information systems may significantly decrease the friction that U.S. and allied forces might encounter while increasing those of enemy forces. And it is in the realm of joint command and control that such technologies might make the greatest contribution. As Eisenhower wrote in 1946: "Separate ground, sea, and air warfare is gone forever. If we ever again should be involved in war, we will fight with all elements, with all services, as one single concentrated effort."<sup>6</sup> Yet impediments to jointness remain today.

One problem is that the services still control budgeting. Thus unified commands have put capabilities on their wish lists such as unmanned aerial vehicles, electronic countermeasure aircraft, and other platforms dealing with intelligence, surveillance, and reconnaissance. The services have underfunded programs to the point that the Pentagon describes such capabilities as "high demand, low density." Unwillingness to fund such items that could contribute to joint operations is only the symptom of systemic problems within the Armed Forces. Bluntly, joint culture does not form the outlook of general and flag officers. Without that perspective, those serving in joint assignments find it difficult to develop realistic concepts of how one might actually use emerging technologies to fight future wars. Joint culture depends on complex factors—education, operational experience, and deep understanding of individual service capabilities.





U.S. Air Force

Chairman and Secretary of Defense, is also partially responsible for joint concept development. But it is so consumed by day-to-day actions that long-range (beyond the in-box) thinking is almost impossible. This dilemma contributes to a weak joint community largely inhabited by officers who serve two-year tours with virtually no chance to do anything but learn their jobs. The prospects for changing this situation do not appear favorable because no senior officer in either the joint world or the services has been willing take on personnel systems that are deeply and happily entrenched.

The past three centuries have seen the evolution in joint warfighting, often at considerable cost on the battlefield. Yet military history since the outbreak of World War II has underscored the critical role of joint warfare. If the Armed Forces are to utilize new technologies to the fullest, they must foster authentic jointness based on professional thinking and education. As Michael Howard has suggested, war is not only the most demanding profession physically, but also intellectually. It is that latter aspect that military professionals must cultivate. Joint warfighting must be grounded in concepts that can provide the flexibility of mind and habit the future demands. **JFQ**

#### NOTES

<sup>1</sup> Clifford J. Rogers, *War Cruel and Sharp, English Strategy under Edward III, 1327-1360* (Woodbridge, U.K.: Boydell Press, 2000), p. 198.

<sup>2</sup> For a discussion of close air support in World War I, see Richard Muller, "Close Air Support," in *Military Innovation in the Interwar Period*, edited by Williamson Murray and Allan R. Millett (Cambridge, Mass.: Belknap Press, 2001).

<sup>3</sup> PRO CAB 54/2, DCOS/30<sup>th</sup> Meeting, 15.11.38., DCOS Subcommittee, p. 4.

<sup>4</sup> Walter Warlimont, *Inside Hitler's Headquarters* (New York: Praeger, 1964), p. 54.

<sup>5</sup> Williamson Murray and Allan R. Millett, *A War To Be Won* (Cambridge, Mass.: Belknap Press, 2001), p. 419.

<sup>6</sup> Dwight D. Eisenhower in memorandum to Chester W. Nimitz, April 17, 1946.

One suggested way to create a more pervasive joint culture would be to destroy service cultures. But that would throw the baby out with the bath water. The basis of a joint approach to operations is understanding warfare in a given medium: land, sea, or air. Until officers master a dimension of war, they can only be amateurs. Thus service cultures must develop warriors completely attuned to their own milieu, because if they are not, they cannot significantly contribute to the conduct of joint operations.

At the heart of the problem besetting joint culture is a military personnel system established in the 1940s. Subsequent changes have addressed only the symptoms of the problem. One purpose of this system was preventing atrophy in the officer corps during the interwar period. An up-or-out mentality captured rigid timelines for promotion. That system remains in place today with inducements to encourage officers to retire between the ages of 41 and 45. Moreover, Congress as well as the services have added requirements for advancement. The latest was a prerequisite for joint duty in consideration for promotion to general officer. This stipulation in Goldwater-Nichols aimed to solve the problem of the services refusing to send their best officers to the Joint Staff.

Officers face many requirements for promotion, including joint duty. Personnel systems in the 1940s did not take into account today's complexities of education and technology. Yet a system designed for the military in the industrial age is still in effect. The result has generally been to deprive officers of flexibility in professional development outside of narrow career tracks.

Although Goldwater-Nichols heightened the prestige of joint billets, the services must push a maximum number of officers through a finite number of positions to qualify an adequate pool for promotion. This means that most aspiring eligibles serve only the minimum time in the joint world, barely enough to learn their jobs, much less a broader perspective on joint operations. The obstacles that the personnel system present to joint culture are exacerbated by a general failure to take professional military education seriously.

U.S. Joint Forces Command should fill the gap. Unfortunately, it has real world missions as the successor to U.S. Atlantic Command. Accordingly, it has tended to place its best officers in jobs that do not involve experimentation or concept development. The Joint Staff, which supports the