



The Rediscovery of Strategic Airpower

By John T. Correll, Editor in Chief

As the deep-attack issue unfolds, the Air Force finds new truth in classic doctrine.

In 1995, the Commission on Roles and Missions of the Armed Forces struggled mightily with the issue of deep attack but did not resolve it. In the end, the commission tossed the problem back to the Pentagon, observing that long-range bombers, land-based and seabased tactical aircraft, and precision guided missiles all have value.

"However," the commissioners said, "it is not clear that the Department of Defense has the correct balance of these various weapons" and "may have greater quantities of strike aircraft and other deep-attack weapons than it needs." DoD, therefore, should "conduct an assessment of all services' deep-attack systems to determine appropriate force size and mix."

That assessment, called the Deep Attack/Weapons Mix Study (DAWMS), was expanded last February when the White House got itself into a tight spot on B-2 bomber production and souped up the ongoing Pentagon study in order to relieve some of the pressure.

The DAWMS working group was supposed to wrap up the first part of its study, comparing the effective-

The B-2, one of only two stealthy aircraft types in the US inventory, can carry a large payload a long way, making it an ideal platform for the deep-strike mission.



The strategy prescribed by the Tacwar model, for example, requires force-on-force engagement. Victory is measured by the capture of territory. The Air Force is held back from attacking with its full strength until land forces have time to arrive. The objectives are slanted toward defeat of the enemy's armor. Eighty-one percent of all the targets are tanks or trucks. "Deep strike" is defined as forty kilometers behind enemy lines. Attacks against truly deep targets have no effect on the enemy's ability to wage war.

The contribution of airpower is shaved in sundry ways by Tacwar game rules. For example, the model reduces sorties by more than fifty percent on bad weather days, whereas

ness of selected weapons and systems, in September. The second phase, which is to identify potential redundancies and recommend trade-offs among bombers, long-range fighters, and various kinds of missiles, will be finished in February.

Among the systems included in the DAWMS assessment are the B-1 and B-2 bombers, landbased tactical aircraft, aircraft carriers and air wings, the Army Tactical Missile System (ATACMS), the RAH-66 Comanche helicopter, cruise missiles, and various precision guided weapons.

Deep-strike deliberations will lead directly into the Pentagon's quadrennial strategy review, coming up in 1997. Then Congress takes its turn. An amendment tacked onto the 1997 defense authorization bill by Sen. Joseph I. Lieberman (D-Conn.) establishes a "nonpartisan national defense panel" to follow the quadrennial review and conduct a "far-reaching" examination of forces and strategy.

The outcome of all this activity promises to have a profound effect, not only on service roles but also on budgets, weapon systems, and force structure.

Assumptions and Models

The Air Force, flying bombers and other aircraft that combine long range with a large payload, is closely identified with the deep-attack mission. Until the Joint Strike Fighter is operational around 2010, it will also be the only service with stealthy aircraft.

Historically, USAF has provided the majority of the deep-attack capability.



The F-117 (top), the B-2's partner in stealth, showed its value during the Persian Gulf War, when it accomplished missions without the strike packages of support aircraft needed by nonstealthy fighters and bombers. Above, crewmen load precision guided munitions, another weapon that increases the number of targets that can be attacked in the opening hours of a conflict.

In the Persian Gulf War, for example, missions into the lethal defense envelope around Baghdad were flown by the stealthy F-117A. The Air Force delivered seventy-two percent of the total gravity bombs and eighty-seven percent of the precision guided munitions. More than seventy percent of the interdiction sorties flown by US aircraft were by Air Force aircraft.

Nevertheless, the Air Force found itself at a disadvantage in the early rounds of the DAWMS because the Joint Force "Tacwar" model and some of the other study tools systematically undervalue airpower.

in the Gulf War, the sortie-rate reduction on bad weather days was fifteen percent.

In May 1996, Maj. Gen. Charles D. Link, USAF assistant deputy chief of staff for Plans and Operations, sent a memo to DAWMS participants, saying that there was too much reliance on unrealistic models and too little attention to the real-world operational knowledge and experience of the services.

That memo, reported in the press, was the first public glimmer of the problem. In June, Gen. Ronald R. Fogleman, Air Force Chief of Staff,

stated more specific concerns about the use of war games and modeling in a memo to the Chairman of the Joint Chiefs of Staff.

"These legacy models are most relevant when considering linear battlespace, the FEBA [forward edge of the battle area], and an employment strategy of attrition and annihilation," General Fogleman said. "Models assessing force-on-force engagements, based upon force ratios and territory lost or gained, lack the capability to fully and accurately portray the significant effects of operations involving a nonlinear battlespace or an asymmetric strategy, directly attacking the enemy's strategic and tactical centers of gravity." He added that "clearly, current modeling/war-gaming results should not be used as the only data points when we make war-planning or resource-allocation decisions."

According to Pentagon sources, that criticism has had an effect, and Tacwar modeling predictions are now taken with a large dose of salt. However, that does not mean the controversy is settled. The war-gaming rules are only symptoms. The underlying problem is conflicting concepts of war and strategy.

New Way of War

"The need for mass on the battlefield has now changed. We don't need to occupy an enemy's country to defeat his strategy," General Fogleman said in a speech in April 1996. "We can reduce his combat capabilities and in many instances defeat his armed forces from the air."

As problems with the Tacwar simulations indicate, US war planning has not caught up with this shift in the nature of war, but General Fogleman's proposition is compatible with "Joint Vision 2010," a "conceptual template" of the future, published last summer by the Joint Chiefs of Staff.

The "Joint Vision" paper said, among other things, that "With precision targeting and longer-range systems, commanders can achieve the necessary destruction or suppression of enemy forces with fewer systems, thereby reducing the need for time-consuming and risky massing of people and equipment. . . . We will be increasingly able to accomplish the effects of mass—the necessary concentration of combat power at the decisive time and place—with

less need to mass forces physically than in the past."

General Fogleman argues that the Napoleonic style of war—characterized by attrition, the clash of force on force, and high casualties—must give way to "asymmetric" strategy and "parallel warfare," in which the winning side attacks with overwhelming force before the enemy has time to adjust, adapt, or mount a counter-offensive.

"If you go back to World War II, you'll recall how Eighth Air Force attacked something like fifty target sets in all of 1943," General Fogleman said in a speech last year. "During Desert Storm, the coalition struck 150 individual targets in the first twenty-four hours of that 1,000-hour war. But very early in the next century, we may be able to engage 1,500 targets within the first hour, if not the first minutes, of a conflict."

Asymmetric strategy, as General Fogleman describes it, would concentrate on "the enemy's strategic and tactical centers of gravity," which "generally include the leadership elite, command and control, internal security mechanisms, war production capability, and one, some, or all branches of the armed forces." Unlike the Tacwar model, this strategy sets little store in pushing enemy ground forces back from a linear forward edge of the battle area.

At a conference on doctrine in April, General Fogleman said that "It was not until Desert Storm that we discovered conventional air op-

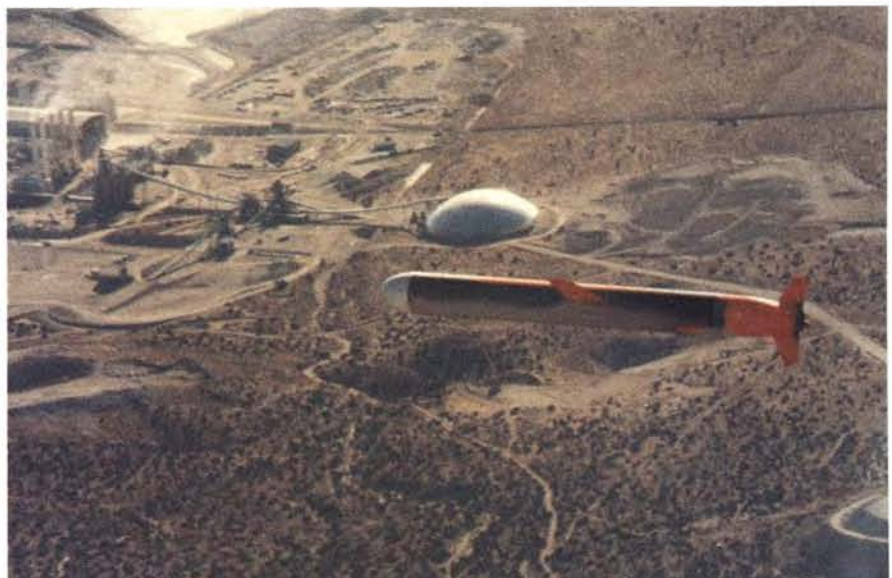
erations could not only support a ground scheme of maneuver but also directly achieve operational and strategic-level objectives—independent of ground forces or even with ground forces in support."

Desert Storm consisted of a forty-three-day air campaign, capped by a 100-hour ground offensive. Airpower destroyed Iraq's command-and-control system in the first day of the war. The air campaign then closed down the supply routes, kept the Iraqi Air Force out of action for the duration of the conflict, destroyed a high percentage of the enemy's armor, and induced mass desertions. Moreover, these results were achieved with low casualties and with limited collateral damage in civilian areas around the targets that were struck. It is generally conceded that airpower was the dominant feature of the war, but that view is rejected by Army traditionalists.

"The recent air campaign against Iraqi forces gained not a single one of the US or UN objectives in the Persian Gulf War," said Gen. Frederick J. Kroesen, USA (Ret.), of the Association of the US Army's Institute of Land Warfare and former commander in chief of US Army Europe in a letter published in the *Washington Post* in November 1994. "Four days of land combat—aided immeasurably by the air campaign—achieved every goal and victory."

Back to Strategic Airpower

Over time, General Link says, the



Until the Joint Strike Fighter is ready, the Navy will rely on cruise missiles for its portion of the deep-strike mission, but their utility is limited because of high cost and relatively small payload.

Army—and to an incredible extent, the Air Force—had drifted into the assumption that the primary component in conventional joint operations would always be the Army and that the Air Force's role was to support the Army.

For forty years, the Air Force said "strategic" only when it meant "nuclear," and the concept of strategic airpower in conventional conflict was essentially forgotten, he says. Non-nuclear attack forces in Tactical Air Command took up a partnership with the Army. Eventually, the drill became that "somebody else tells us where the target is, and we put a bomb on it," General Link says.

"By 1965, thinking of airpower as an auxiliary force or a supporting arm had pretty much become a habit," he says. "Vietnam could have given us an opportunity to rethink this idea, but we didn't take that opportunity. We did a pretty good job of supporting our soldiers on the ground in ways that helped them conserve artillery rounds and travel lighter. We perfected airpower as a substitute for mortar rounds.

"By the 1980s, the doctrine the US Army developed for defending central Europe, AirLand Battle, was widely if inaccurately considered the ultimate expression of airpower's contemporary potential. Basically, for lack of any other alternative, the United States Air Force enthusiastically embraced AirLand Battle. As a

result, soldiers were encouraged to expect airpower to serve the land force objectives in the first instance. . . . Probably worse than the soldiers' expectation, airmen developed the same expectation."

The Gulf War, General Link says, "began repairing our vision of airpower, as airpower directly achieved primary objectives set by the theater commander." Both Generals Fogleman and Link have been hammering hard on the theme of strategic airpower. The Air Force will be the supporting force at some times, the supported force at other times. Airpower can achieve strategic results independent of ground power. In wars of the future, airpower is likely to deliver the main blow.

In 1994, in his last month as Air Force Chief of Staff, Gen. Merrill A. McPeak created a flap with his proposal to cancel the ATACMS. He said that its function—attacking the enemy's rear echelons and rear areas—was already covered, and covered better, by airpower.

During the Gulf War, all thirty-two ATACMS rounds expended were against twenty-two fixed targets. Army artillery firing deep into enemy territory used trajectories up to 20,000 feet, forcing aircraft to operate above that altitude. The projected range for advanced ATACMS is 130 miles with the trajectory reaching 100,000 feet and raising the altitude for aircraft.

When General Fogleman became Chief of Staff, he adopted a less confrontational style and called off the attack on ATACMS, choosing instead to emphasize the Air Force's own core competencies. The main sticking point between the Army and the Air Force on deep attack, however, seems to be mostly one of control.

Writing in *Field Artillery*, Lt. Col. John Gordon IV, chief of the Army DAWMS team, said the deep-attack issue was important to the Army "because it influenced the future of ATACMS and the deep operations prerogatives of the land commander." The Army's position, he said, is that "the LCC [land component commander] must be responsible for synchronizing all actions within his area of operations" and "needs a mix of organic and supporting joint systems to conduct deep operations" within that area.

The "organic" system in that description is ATACMS, and the "supporting joint systems" include Air Force fighters and bombers.

The land component commander plots the fire support coordination line (FSCL), which generally marks the furthest point that artillery can reach. ATACMS would draw the line at 130 miles. Air strikes and other "fires" within that line must be approved by the land commander.

Targets 130 miles out may or may not have high priority for the land component commander focused on the close battle. Moreover, the delay before the air component is cleared to hit these targets can be costly. In the closing days of Desert Storm, the FSCL was drawn too far forward, providing the retreating Republican Guard with a sanctuary. The Army could not reach them, and the Air Force wasn't allowed to.

Cruise Missiles and Bombers

A 1994 study by the Center for Naval Analyses and the RAND Corp. compared cruise missiles and aircraft. "Cruise missiles should be the weapon of choice in situations calling for limited raids where precision contingency strikes against fixed targets are required and where the risks of aircrew loss are a dominant consideration," it said.

Cruise missiles, delivered by B-52 bombers and naval vessels in the Persian Gulf, were chosen for the strikes against Iraq on September 3. Both air-launched and sea-launched



Nonstealthy platforms with precision guided missiles remain cost-effective. This F-15E can put four 2,000-pound bombs on target for about \$250,000, compared to \$5 million for the same payload delivered via cruise missiles.

Photo by Randy Jolly

cruise missiles were used extensively in the Gulf War. A famous instance was on January 16, 1991, when B-52s, flying a 14,000-mile round-trip mission from Barksdale AFB, La., struck targets deep inside Iraq with cruise missiles ninety minutes after H-hour on the first day of the war.

The CNA/RAND study said that bombers have roughly a four-to-one advantage in payload over cruise missiles. Aircraft can strike a wider spectrum of targets, provide greater flexibility, and achieve significantly greater accuracy. There is also a difference in cost. "An F-15E could deliver four 2,000-pound laser-guided bombs, which cost roughly \$50,000 each," CNA/RAND reported. "The total cost for expendables would be less than \$250,000, allowing for some operating costs. Achieving a comparable destructive potential would require at least four conventional cruise missiles at an average cost of \$1,250,000 each, for a total of roughly \$5 million."

Stealthy aircraft are preferred for the deep-attack mission for two reasons. Their low-observability features allow them to fly into airspace that would be deadly for other aircraft. And, unlike nonstealthy strikers operating in hostile territory, they do not require large numbers of other aircraft for escort and support.

"In the first twenty-four hours of the Gulf War, the combination of stealth and precision allowed a much greater proportion of targets to be attacked than attainable with similar numbers of nonstealth aircraft," the staff of the Commission on Roles and Missions said. "One stealth sortie was 'worth' approximately sixteen nonstealth sorties in attack planning."

USAF's F-117s and B-2s are the only operational stealth aircraft in the world. The next stealthy system, the F-22 fighter, will be exclusively the Air Force's as well. The Navy and Marine Corps will finally get stealth with the Joint Strike Fighter, but the largest part of the production in that program will be for the Air Force.

The ultimate in stealth as well as in deep-strike aircraft is the B-2 bomber. The decision on how many B-2s the Air Force should buy has been decided, reopened, and revised several times, and the question hangs over the DAWMS assessment and the other deliberations that will follow.

The original plan was to buy 132 aircraft. That was cut to seventy-five for budget reasons, then cut again



Photo by Randy Jolly

For forty years, when the Air Force said "strategic," it meant "nuclear." No more. Even the B-52, strongly identified with Cold War strategic alerts, will have a wide variety of conventional roles to play well into the next century.

to twenty. The Air Force acknowledges the value of the B-2 but has declined to push for more aircraft at the expense of other programs in a constrained budget. However, there is considerable support in Congress for the B-2, and the Administration used additional funding that was voted last year to equip a test aircraft for combat operations, thereby raising the projected operational fleet to a total of twenty-one aircraft.

Concepts From the Sea

When the Cold War ended, the Navy and the Marine Corps announced that they were putting their global Maritime Strategy "on the shelf." In September 1992, the Navy adopted a concept called "From the Sea," in which operations were concentrated along the littorals and coastlines of continents. It shifted emphasis from big-ocean "blue water" concerns to "brown water" power projection.

In 1994, the Navy updated the concept in a paper entitled "Forward . . . From the Sea." This time it put more emphasis on forward presence—stimulated in part by the findings of the Bottom-Up Review the previous year that ten carriers were enough for the Navy's part of the strategy to fight two major regional conflicts simultaneously but that additional carriers would be needed if the strategy were overlaid by a naval-oriented presence mission.

Except for cruise missiles, the Navy is poorly prepared for deep attack.

The plan had been to replace its aging A-6E bombers with the stealthy A-12 attack aircraft. The A-12, however, was canceled in 1991 for program mismanagement. The Navy will have no stealthy aircraft until the Joint Strike Fighter—of which it intends to procure 300—is ready.

In the meantime, the Navy is developing an E/F model of its F/A-18 fighter. This variant will have improved range and payload. There will also be some reduction in its frontal radar signature, but it will not be a stealthy aircraft. The standard mix of the carrier air wing of the future will be thirty-six F/A-18E/F Super Hornets and fourteen Joint Strike Fighters. The Navy says the Joint Strike Fighters will act as "pathfinders" for the F/A-18s. The Super Hornets also perform the fleet defense mission.

In February 1996, reports began to circulate of a draft plan entitled "2020 Vision" under which it was said that the Navy would develop a "very heavy conventional deterrent force" for attack operations inland with long-range missiles and aircraft carrying precision guided weapons.

The Norfolk *Virginian-Pilot*, which had seen a copy of the draft, said the Navy wanted to move beyond the capability to hold an enemy "until the big guns of the Army and heavy bombers of the Air Force could arrive" and equip itself with "the kind of massive firepower needed to strike a decisive blow." The assessment of



embedded in the Tacwar models more obsolete all the time.

The Air Force is well aware that basic change in doctrine, plans, and operational concepts will require the understanding of the joint force theater commanders, none of whom is an Air Force officer. There is encouragement, however, in the example of Army Gen. H. Norman Schwarzkopf, commander of coalition forces in the Gulf War, who saw that circumstances were right for the air campaign and backed his air component commander while he carried it out.

Also, General Link likes to quote the perspective of one of the most famous soldiers of the century, Field Marshal Sir Bernard L. Montgomery of Great Britain, who was deputy su-

Loren Thompson of the Alexis de Tocqueville Institution, quoted by *Defense Daily*, was that the Navy was “making a bid to be the dominant deliverer of airpower.”

Little has been heard about this plan since Chief of Naval Operations Adm. Jeremy M. Boorda died in May and was succeeded by Adm. Jay L. Johnson. The Navy is proceeding, however, with the Arsenal Ship program, which was established March 21. Arsenal ships would be fortified vessels with “vertical launch cells” for 500 weapons, mainly cruise missiles, and be operated by a crew of about fifty. They could give the Navy a new weapon for deep attack—although not with its carrier battle groups, which have been the preferred solution up to now.

The Lag in Doctrine

“Our very early airpower visionaries clearly allowed their concepts to race ahead of technology,” General Fogleman said at the doctrine seminar in April. “Therefore, we found ourselves in a position where there were a lot of unfulfilled promises and false expectations relative to what airpower could and could not do.” Technology is finally catching up with the vision, and “airpower has fundamentally changed the nature of warfare, but our joint and combined doctrine has not caught up with this development.”

General Fogleman said that, although it has taken many years for the capabilities of airpower to fully mature, “we can now see the results



Photo by Ted Carlsson

Gen. Ronald R. Fogleman, USAF Chief of Staff, acknowledges that airpower visionaries “allowed their concepts to race ahead of technology.” But, thanks to advances like the F-22 (top) and the B-2, technology is closing the gap.

of that approach as laid out in some of the visions of early airmen. . . .

“Airpower has significantly increased our ability to exploit the dimension of time in warfare. Not only do our air and space platforms provide us global awareness on a near-real time basis, but our ability to project long-range combat power allows us to overcome some of the fog and friction of war.”

Meanwhile, the so-called “revolution in military affairs” rolls on. Improvements in long-range precision strike, information technology, space systems, and other areas are making the kinds of assumptions

preme commander, Supreme Headquarters Allied Powers Europe, when he said, “It is clear from the strategy that I have outlined that the dominant factor in a future war will be airpower, and that is my very firm belief. But like so many things we do, we pay only lip service to this great truth. Flexibility and centralized control of all air forces in a theater of war are vital to success, but the West has sacrificed flexibility by basing the air command organization on the requirements of direct support of land forces, whereas it should be based on the organization necessary to gain the greatest measure of control of the air.” ■