Airborne Warning and Control System.
U.S. Air Force

Tomahawk Land Attack Missile.
U.S. Navy (Bruce Morris)

DEEP STRIKE:
The Evolving Face of War

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Stealth fighter.

U.S. Air Force (Marvin Lynchard)

Deep strike operations, a traditional domain of the Air Force, have evolved with the advent of long-range land-based and sea-based weapons. To maximize force effectiveness and synergy in the adjacent close battle, joint doctrine must define deep strike operations as well as concomitant responsibilities for command and control and mission execution. This issue arose in a Gulf War post mortem that identified the lack of a focal point for deep strike target planning, coordination, and attack execution as a campaign shortfall.[1] While several solutions have been proposed, deep strike remains at the center of a heated controversy. It is not defined in service doctrine, much less joint publications. It takes various forms and meanings. The Army uses *deep battle*, *deep attack*, and *deep strike* interchangeably; the Navy adopts the holistic term *strike warfare*; and the Air Force refers to *interdiction*, *air interdiction*, and *battlefield air interdiction*.

the exigencies of the European battlefield have shaped the Army

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While the applicability of deep strike may be argued in given combat situations, its potential use and related planning and coordination should be examined. Also, in view of force reductions, the efficient, synchronized, and synergistic role of combat power in the deep battle is mandated to influence the outcome of the adjacent close-in battle, which will determine victory or defeat. Thus deep strike must be defined and a conceptual framework developed for its use in joint warfare.

Five assumptions are germane to this process. First, conflict remains non-nuclear. Using nuclear weapons elevates battle planning and management to a higher theoretical tier and invalidates concepts derived from the conventional battlefield. Second, with advancements made in accuracy, strategic and tactical concepts are not helpful in dealing with precision weapons. Also, in forsaking the division between tactical and strategic levels of organizing, training, and equipping forces, the Air Force eliminated distinctions among airframes and major commands, referring collectively to combat air. Third, deep battle is primarily an extension of aerospace power that utilizes a platform operating either in or passing through the environment. Consequently, not only must the role of combat fixed-wing aircraft in the deep strike be analyzed, but also cruise missiles and long-range artillery missiles. Fourth, contributions from national reconnaissance aircraft and satellites as well as special operations forces (SOF) are irrefutable. Operating under separate guidelines, national-level direction of such assets is beyond the scope of deep strike command and control architecture. Last, these operations are not applicable to low intensity/guerrilla warfare.

Service Perspectives

Army. The exigencies of the European battlefield have shaped the Army perception of deep strike warfare. Massed echelons were a dilemma to NATO planners who sought to arrange the battlefield to avoid the exhaustion of wave after wave of enemy forces without being able to trade space for time in the face of superiority. Until the 1970s combat operations were seen as two separate contests: ground forces fighting the close battle while airpower attacked deep. The Army adopted AirLand Battle to counter the numbers and tactics of the Warsaw Pact. It called for destroying enemy forces before they reached the close battle area so that front line commanders would engage a weakened enemy. AirLand Battle was a realization that time and distance are central to success. Synchronized attacks on enemy forces as they were introduced to the main battle area were essential to disrupting and destroying follow-on formations.

DOD

Joint Surveillance and Target Attack Radar System.

To realize the intent of this doctrine, the Army found that a joint approach had to be taken to ensure victory in the close fight. In Field Manual 100-5, *Operations*, deep operations are defined as "those directed against enemy forces and functions beyond the close battle. They are executed at all levels with fires, maneuver, and leadership. . . . They expand the battlefield in space and time to the full extent of friendly capabilities." Thus the traditional concept of waging battle independently of the other warfighting arms was relegated to the historical archives.

The corps is the focal point of joint deep strike operations. Although division commanders have a deep strike capability, a corps has the people, expertise, equipment, and focus to execute an entire operation. To facilitate operations and cope with requirements of deep strike, a specialized cell has been created to integrate the commander's intent into a battle plan. Pivotal to this process is an accurate, is the timely flow of intelligence that includes acquiring and disseminating products from national sources in step with the battle. Along with intelligence, there are representatives in a mixed-service cell from corps artillery, corps aviation, air defense artillery, the Air Force, and even naval fire support as well as electronic warfare, targeting, SOF, and planning functions.

By joining the multiple launch rocket system (MLRS) and the Army tactical missile system (ATACMS), Army aviation (attack helicopters), Air Force close air support, electronic warfare, and naval fire support representatives, the cell acquires a multidimensional warfighting character. Collocating representatives enhances coordination by using critical assets, facilitating interservice communication, and focusing on a common goal. Although the composition and design of the cell varies slightly from corps to corps, the function and intent remain the same throughout the Army.

Navy. According to Naval Warfare Publication 1, *Strategic Concepts of the U.S. Navy*, strike warfare encompasses "the destruction or neutralization of enemy targets ashore through the use of conventional or nuclear weapons." Since airframes, tactics, techniques, and procedures are

similar in achieving target destruction, airpower projection from the sea operates on the same basic tenets as that of the Air Force.

The Tomahawk land attack missile (TLAM), however, is unique to the Navy. Capable of being fired from a submarine or surface ship, it has a range of 650 nautical miles. The Tomahawk made its public debut in the Gulf War as it deftly navigated downtown Baghdad to destroy various targets. Unmanned, air breathing, and expendable, it can be made "with less expensive materials than a strike aircraft and need not incorporate all of the complex electronic or defensive systems of a manned aircraft."[2] It can also be rapidly reprogrammed to meet changing target requirements.

Air Force. Although not specifically defining deep strike, the Air Force uses the terms *air interdiction* and *counter air operations*. The former is defined in Air Force Manual 2-1, *Tactical Air Operations*, as "operations conducted to destroy, neutralize, or delay . . . military potential" while the latter term defined in Air Force Manual 1-1, *Basic Aerospace Doctrine of the United States Air Force*, as "operations directed against the enemy's air offensive and defensive capability in order to attain and maintain a desired degree of air superiority."

JFCs must integrate the attack by ensuring that deep strikes are effective

Interdiction missions are either preplanned air strikes against specific targets or armed reconnaissance sorties with the primary purpose of locating and attacking targets of opportunity. Conducted against a single target or selected portions of a targeted complex, missions against a specific target are designed to have the maximum effect on an enemy's ability to sustain intense, high-tempo offensive and defensive operations. Armed reconnaissance sorties are directed against enemy materiel, personnel, and facilities in a specified area. Their desired effect is to destroy, trap, or limit the mobility of forces and materiel.

Joint Doctrine

The objective of counter air operations is to maintain air superiority, thus preventing enemy airpower from effectively interfering with operations by friendly forces. Freedom of movement afforded by air superiority ensures that joint military objectives are achieved by either eliminating or curtailing an enemy's general air threat. Like the Air Force, joint doctrine employs the terms *air interdiction* and *counter air*. Air interdiction is defined in Joint Pub 1-02, *Department of Defense Dictionary of Military and Associated Terms*, as "air operations conducted to destroy, neutralize, or delay the enemy's military potential before it can be brought to bear effectively against friendly forces at such distance from friendly forces that detailed integration of each air mission with fire and movement of friendly forces is not required." Again counter air involves operations aimed at attaining and maintaining a specified degree of air superiority by destroying or neutralizing enemy forces. The intent and conduct of such operations, as defined in joint doctrine, are fundamentally identical to the Air Force perceptions discussed previously.

Since Desert Storm, commanders and doctrine developers have sought to reconcile various views on coordinating and conducting the deep battle.[3] To mitigate its impact on service doctrine, a definition must meet the intent of extant service doctrine yet be flexible enough to offer practical, unconstrained guidance. Deep strike can be defined as operations conducted to destroy, degrade, or neutralize enemy land, sea, and air forces before they are brought to bear against friendly forces.

To give a land force commander sufficient depth for high-tempo maneuvering, deep strike operations should be conducted beyond the fire support coordination line (FSCL) and emphasize improving the efficiency of targeting and attacking targets beyond this line. An approach is needed that recognizes the deep, close, and rear areas of the battlefield and establishes organizations and responsibilities to conduct combat operations in them. Moreover, in an era of shrinking resources, it is imperative that such organizations be standardized to support warfighting commanders, since an enemy may not allow time to adapt to a new theater or threat as was the case in Desert Storm.

Target Coordination

Joint force commanders (JFCs) must ultimately integrate and synchronize all the aspects of attack and set conditions for victory by ensuring that deep strikes are effective and contribute to the defeat of a hostile main battle force. Since JFCs cannot personally coordinate the entire campaign, they can form a joint targeting coordination board (JTCB) with senior service component and staff officers to assist and advise them as command and control authorities. According to Joint Pub 3-0, *Doctrine for Joint Operations*, a board will typically review target information, develop guidance and priorities, and may prepare and refine joint target lists (it should also maintain a complete list of restricted targets and areas where SOF are operating to avoid endangering operations). Although briefly outlined in Joint Pub 3-0, JTCB structure and authority is vague and does not provide JFCs with a

readily available organizational framework to control deep strike operations. The criticality and complexity of the deep strike mission mandates that the basic JTCB structure be standardized with flexibility for various contingencies.

Deputy JFCs make ideal JTCB directors. Familiar with the overall campaign strategy, they have authority to quickly resolve targeting issues. For maximum synergism and synchronization of a campaign, joint force air component commanders (JFACCs) and joint force fires coordinators (JFFCs) should serve on JTCBs. Incorporating the commander's intent, available resources, and limitations, including rules of engagement, into a joint fire support plan along with full authority to order fire missions, the expanded JTCB mission should be to coordinate, integrate, and prioritize joint force requirements to include identifying and prioritizing resources for target acquisition and battle damage collection.

the services must be able to detect ground targets deep behind enemy lines

Setting Priorities

To establish the focus and level of effort for deep strike operations, the following priorities can be adapted to evolving battlefield conditions. The first priority of deep strike operations should be enemy command, control, and communications architecture and facilities. Although attacking this target set may not be immediately helpful, the long-range effects of inflicting strategic paralysis will be to dramatically reduce an enemy's ability to maneuver on the battlefield or perform normal functions of government. The second priority should be fielded forces, including establishing air superiority through counter air operations with joint suppression of enemy air defense (JSEAD), striking enemy sea forces, and interdicting land forces beyond FSCL before they can be brought to bear against friendly forces.[4] The third priority should be key production facilities including oil, power, and defense industries, especially those that produce weapons of mass destruction. Fourth is the transportation infrastructure—railways, roads, and bridges—to prevent, neutralize, or delay additional land forces from reaching the forward edge of the battle area. The last priority, the civil populace, is targeted by psychological operations and nonlethal classified means.[5]

Because the ultimate goal of deep strike is victory in the close battle, centralized command and control, along with comprehensive, accurate, and near-real-time intelligence, will maximize the synergism of advanced, long-range weapons systems such as aircraft and missiles. Command and control demands the capability to process, display, and communicate target acquisition data from service components and national intelligence assets to JTCB.

The Air Force domain of deep strike operations, therefore, must include Army surface-to-surface ATACMS and Navy sea-launched TLAM weapons systems. The fundamental means of Air Force command and control—the tactical air control system (TACS)—has the people, procedures, and hardware to plan, direct, and control operations with other services and allies. With the control agencies and communication-electronics facilities to ensure centralized control and decentralized execution of air assets, TACS can readily incorporate and accommodate the command and control requirements of Army and Navy deep strike systems. Located at an operations center, such as the Tactical Air Control Center (TACC), the deputy JFC, via JFACC, may exercise control over long-range weapons with the battle-tested airborne warning and control system (AWACS), the Airborne Command And Control Center (ABCCC), the contingency TACS automated planning system (CTAPS), and the new joint surveillance and target attack radar system (JSTARS).

Integrating the Attack

JSTARS, an airborne multi-mode radar with associated C^3 equipment, battle tested during Desert Storm and now in full-scale development, can integrate long-range, deep strike weapons. It offers airborne radar to detect, track, and classify ground forces, along with processing equipment, controller stations, and command and control interfaces. JSTARS furnishes targeting information to tactical aircraft, standoff missiles, or Army artillery for precise, real-time attacks against moving enemy targets, including helicopters and slow-moving, fixed-wing aircraft.

The Army and Air Force recognized that in order for AirLand Battle to be a viable doctrine, the services not only must have weapons that can disrupt and destroy second echelon forces but must first be able to detect ground targets deep behind enemy lines.[6] This is what JSTARS does.

With the introduction of JSTARS, together with the proven use of AWACS and ABCCC, an entirely new set of targeting capabilities is available to JTCB. Targeting data processed on these aircraft could be sent to Army or Navy component commanders via a joint tactical information distribution system (JTIDS) link to CTAPS terminals. Interconnected terminals at all component operations centers can provide automated targeting, collection management, situation analysis,

and improved air tasking order (ATO) development and distribution tools.

Centralized control of air assets has long been recognized as a tenet of campaign planning. From Operation Torch to Desert Storm, this concept has proven its value. Joint doctrine cedes the role of centralized control/decentralized execution to JFACCs as controlling authorities when two or more service components contribute aircraft or standoff missiles to operations. JFACCs have been effective in controlling Air Force and Navy aircraft. But a dilemma arises when Marine fixed-wing assets are included because doctrine has long regarded Marine Corps aircraft as close support weapons. Consequently, Marine force structure deemphasizes field artillery and surface-to-surface missiles. Transferring tactical air support provided by the air combat element from its command and control could jeopardize ground operations. Nevertheless joint doctrine is continuing to move toward centralization as seen in Joint Pub 3-56.1, *Command and Control for Joint Air Operations*. JFACCs must not only be the sole points of contact for air operations but must liaise with JFFCs to ensure the integration of ground systems and scheme of maneuver into air campaigns.

With ATACMS, MLRS, and attack helicopters, and the development of the extended-range ATACMS and tri-service standoff attack missile (TSSAM), the land component commander (LCC) now plays a crucial role in JFC execution of the deep battle. An organization that integrates and coordinates land-based deep fire systems is required to represent LCC needs at both the JFC level and laterally within the ground forces.

Because of all-weather, 24-hour capable land systems and the need to deconflict airspace to execute timely JSEAD, JFFCs as senior land force FSCOORDs function as LCC agents on deep battle matters. JFFCs may also remedy the Marine close air support dilemma. If JFCs consider it necessary to give command and control of Marine aircraft to JFACCs, JFFCs would be the means of realigning fire support to assist Marine ground forces. Army field artillery brigades and attack helicopters may be assigned new support missions to cover the shortfall. Joint Pub 3-09, *Doctrine for Joint Fire Support*, should address this JFFC concept as well as both Army and Marine aspects of land warfare. Since JTCBs are vehicles for coordinating and synchronizing land, sea, and air based weapons systems in deep strike operations, JFFCs should supplement, not supplant JTCBs. Taking LCC intent for fighting the ground war close and deep, JFFCs, via JTCBs, must integrate it with air campaigns designed by JFACCs.

The complexity of modern warfare shows that synchronization and synergy are essential to fighting and winning with minimal friendly casualties. To ensure that resources are not misused through inefficiency and service parochialism, command and control architecture for JTCBs should coordinate deep strike operations. **JFQ**

NOTES

[1] Fred F. Marty, "Synchronizing Fires in Joint and Combined Operations," *Field Artillery Journal* (February 1993), p. 1.

[2] Richard K. Betts, *Cruise Missiles and U.S. Policy* (Washington: The Brookings Institute, 1982), p. 3.

[3] John H. Cushman, *Thoughts for Joint Commanders* (Annapolis: U.S. Naval Institute Press, 1993).

[4] John A. Warden III, *The Air Campaign* (Washington: National Defense University Press, 1988), p. 17.

[5] James P. Coyne, *Air Power in the Gulf* (Arlington, Va.: Aerospace Education Foundation, 1992), p. 44.

[6] Millard Barger, "What the Air Force Has To Do To Put the 'Air' in the AirLand Battle," *Armed Forces Journal International,* vol. 123, no. 12 (June 1986), pp. 59–64.