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Joint Force Fires Coordination: Towards a Joint Force Answer

by

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As an Advanced Research Project

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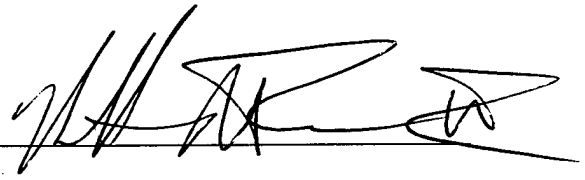
The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

Signature: 

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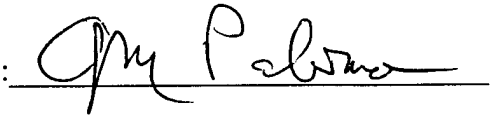
Signature: 

Abstract of

Joint Force Fires Coordination: Towards a Joint Force Answer

The joint force is a warfighting organization. The joint force headquarters has operational fires planning and execution functions appropriate to its warfighting nature.

Debate in the area of joint force fires coordination exceeds procedural variation. The depth of doctrinal and conceptual controversy is based in unique service warfighting philosophies. An air-centric construct is the primacy of fires; a land-centric construct is the primacy of maneuver. Components compete for decisive effect not only with each other but with the joint force. The contemporary joint force is confederated, the joint force headquarters a weak arbitration authority.

The joint force aspires to integrated, synergistic warfighting. Advances in weapon and information systems complicate an existing challenge of joint warfighting, capability integration. Force integration is dependent on co-opting not only capabilities but warfighting perspectives, something only organizational advances can accomplish. A joint force headquarters is an integrative agency. Fires coordination is an integrative function.

Joint force fires coordination responsibilities include defining operationally decisive objectives, asset prioritization, and deconfliction in areas of component interface. Joint force fires coordination agencies include functionally organized components, the joint targeting coordination board and, the joint force fires coordinator. These agencies represent compromise solutions to ongoing debate.

Joint warfighting is fighting components not resolving component dispute. To make the joint force fight a team fight requires a fires coordination agency at the joint force headquarters.

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INTRODUCTION

Together, fires and maneuver define tactical combat. Commanders fight forces based on a scheme of maneuver and a concept of supporting fires. Decision is dependent on the successful integration of these warfighting functions. Fire support coordination is a tactical imperative involving planning and execution tasks in support of an integrated battle plan. At the operational level of war, warfighting and the relationship of fires and maneuver for decisive effect are not as clearly understood. The need is not apparent to all, the practicalities not apparent to most.

An operational truism is that there are no unsettled arguments in the field. Because solutions must be found, solutions are found. For this reason, joint forces vary in their approaches to the integration of component fires and maneuver. Established joint force headquarters, such as the Combined Forces Command in Korea, have long standing missions, familiarity with peculiarities of theater conditions and, most importantly, organizational experience and perspective that are the basis for operational fires coordination. Designated joint task force headquarters in Atlantic Command (ACOM) and in Pacific Command (PACOM) have standing operating procedures based on operational and exercise experience that are the basis for the conduct and control of fires. Joint and service doctrine proffer an extraordinary amount of information on operational planning and operational fires and document many of the established techniques for

control and coordination of fires at the joint force component level. Contradictions of force and service missions, interests, and priorities are reflected in the diversity of procedure and doctrine governing how and who currently conducts joint force fires coordination.

Joint force fires coordination is a contentious issue. Well argued positions, however, mean nothing when endlessly posited between officers of different operational perspectives. To define the problem one must look to the varied warfighting constructs of the proponents. To define the solution one must understand how to fight the joint force, now and in the future.

PROBLEM DEFINED

Joint force fires coordination functions, techniques, and responsible agencies are currently not well defined and are topics of service and joint controversy. Joint doctrine in this area is deficient. In joint force exercises and operations there is a tendency to delegate fires coordination functions below joint force headquarters level. When joint force operational fire planning and execution functions are delegated below joint force headquarters level, the commander forfeits an important method of influencing outcome, potentially degrading integration and synchronization of joint force operations.

THESIS

Fires coordination is an operational warfighting function. There are fires planning and execution functions appropriate to joint force headquarters from the joint task force to

combatant command. Centralization of fires coordination responsibilities under a joint force headquarters staff agency, makes good joint sense, now and for the future.

METHODOLOGY

This paper is a collection and analysis of information in three areas relating to joint force fires coordination: 1) post Desert Storm controversies related to the employment of fires to support the accomplishment of joint force missions, 2) service and joint operational theory, doctrine, and emergent concepts, and 3) joint force procedures.

Categories of documentary data collected and analyzed include:

- Joint and service doctrinal publications in published and draft forms, publication program directives and reviewer comments
- Joint force standard operating procedures (SOPs)
- Published works on the recent history and the future of joint forces and joint force operations
- Joint Vision 2010 and associated service visions
- Exercise and operational after action reports and historical summaries

The Joint Universal Lessons Learned System (JULLS) data base includes a number of fires related issues. JULLS, however, though providing unique perspectives does not provide comprehensive information.

Personal and telephonic interviews were conducted with action officers from operational commands and service doctrine commands. Generally, these opinions did not represent reviewed or approved command or service positions.

Events from joint operations and exercises are used illustratively, not definitively. In the case of fires coordination visceral argument, rather than analytical evidence, predominates. Determining effectiveness of fires coordination techniques and agencies is

challenging. There is a wealth of competing information and lessons learned, valid observations, and recommendations. Facile defenses of pro, con, or irrelevant positions are simultaneously possible, based on any given exercise.

This paper is an attempt to understand fires and fires coordination as functions of joint warfighting by examining the warfighting nature of the joint force and its continuing evolution as a warfighting organization. In component debate there is a purple lesson. One must look at the forest of component theoretical argument to see the joint tree. The paper begins with a detailed examination of several contemporary debates and joint force controversies. These ongoing controversies define the challenge of operational fires coordination: integration and synchronization of fires in the joint force. An understanding of the issues involved and existing doctrine allow for a descriptive characterization of the joint force environment, present and emergent. Information from this characterization, plus an examination of future joint force service concepts leads to an analysis of service warfighting constructs and competing views of the future. Based on the foregoing, the joint force as a conceptual warfighting organization and the role of operational fires and fires coordination within the construct of joint force warfighting are examined. Conclusions and recommendations are offered.

CHAPTER II

AREAS OF DEBATE, CONTEMPORARY CONTROVERSIES

Nowhere is joint force integration and synchronization more complex, dangerous, or controversial than in the application of the devastating firepower available to a United States joint force commander (JFC). Controversy exceeds the relative merit of procedural variation. Debate, at once doctrinal, semantic, conceptual and practical, defines a need for joint force fires coordination.

DOCTRINE

The magnitude of the coalition victory in Desert Storm was in many ways a watershed of joint force development. Though not the start point for the creation of joint force procedures, Desert Storm methods have become the baseline from which both joint force procedural agreement and controversy run. Following the Gulf War, the United States military services managed to avoid complacency, a traditional pitfall of victory. Desert Storm has been a catalyst for change, ratcheting joint warfighting to a developmental threshold at which complex joint warfighting issues are debated. The volume of recently published joint documents attests that there is no complacency in the development of joint doctrine. There is a lack of progress in specific areas. A recurring characteristic of joint doctrine is the sparseness of substantive discussion on fires, arguably one of the most important warfighting functions of a joint force.

Doctrine is not about the future and there is no policy in doctrine. Doctrine is based on extant capabilities. Lack of doctrine is based in extant controversy. The advertised two year joint doctrine review process has been strung out for almost a decade in the production of some intermediate level joint publications (those between keystone publications and the lower level technique, tactics, and procedure publications) because of fires related issues.

The most outrageous joint doctrine delay is the nine year argument over the definition of fires and fire support that has prevented the completion of Joint Publication 3-09, Doctrine for Joint Fire Support. The program directive for the 3-09 was published in October 1988 with the intention of establishing "doctrine and procedures for planning and execution of all fires to include common fire support coordination measures, linkages with intelligence, and allocation of fire support efforts to ensure that all forces are coordinated in their efforts to support the Joint Force Commander's battle plan."[1] Production was delayed by Desert Storm. Following the war, two issues surfaced that have since been the subject of consistent debate. The first was the appropriateness of fires terminology. Proposed definitions placed the preponderance of Air Force missions under a fires umbrella. The Air Force views strategic attack, interdiction, and counter-air not as fires, but as capabilities with stand alone potential for decisive impact on joint force missions. Association of airpower capabilities with fires and fire support leads to potential, and undesirable, subordination of airpower to surface and ground commanders. The introduction of the concept of a joint force fires coordinator (JFFC) was the second

controversial issue. The Air Force position was that the JFFC placed coordination responsibilities, inappropriately, at the JFC level.

Compromise on long lasting debate occurred in December of 1996 at the Army-Air Force Warfighter Conference.[2] Publication of the 3-09 looks likely in 1997, but the 3-09 only deals with joint fire support, inter component fires in support of land or amphibious forces. This represents a watering down of the initial program directive.[3]

The state of joint doctrine is analogous to information available in Volume 1 of the Joint Operation Planning and Execution System (JOPES) planning, policies, and procedures manual.[4] This manual provides comprehensive planning documents with detailed instructions on the preparation of a myriad of supporting plans in areas related to joint force operations, but does not contain a sample fires estimate. Detailed instructions exist for the planning of public affairs, civil affairs, and psychological operations but there is no help for planning operational fires. Joint doctrine needs improvement in the important warfighting area of fires.

CONCEPTUAL DEFINITIONS

The terminology of joint force fires coordination is not precise. Use of doctrinal fires and fire support terminology as arguments for organizational fires architectures involves circuitous paths of logic in which contradictions are prevalent. Terms like fires, fire support, maneuver, and coordination, used singularly or in tandem, confound issues of planning and execution.

Fires. There is a "joint tendency to differentiate between fires and fire support and the importance of fires on the modern battlefield."[5] Joint Pub 3-09, Doctrine for Joint Fire Support (Final Coordination Draft), defines fires as "the effects of lethal and non-lethal or disruptive means to achieve desired strategic, operational, or tactical effects."[6] "Joint fire support is defined as those inter-component fires provided to assist land and amphibious forces to maneuver and control territory, populations, and key waters." [7]

The anathema of joint force fires is its association with fire support. However, disassociation prevents a complete appreciation of the relationship of fires and maneuver. "Synchronizing interdiction and maneuver is critical to the successful execution of the campaign or major operation. Interdiction and maneuver should not be considered separate operations against a common enemy, but rather complementary operations designed to achieve the campaign objectives."[8] Operational fires are defined by effect and fire support is defined by integration with maneuver. The impact of this theoretical difference, for a joint force functioning at the operational level, is that when fires alone provide operational effect, the need for integration with maneuver is apparently lessened. Fires functions become less the purview of the joint force headquarters and more a component level function. The synergistic relationship of fires and maneuver, so easily recognized at the tactical level, is often ignored at the operational level.

Maneuver. Joint Publication 1-02 defines maneuver as the "employment of forces on the battlefield through movement in combination with fire, or fire potential, to achieve a position of advantage in respect to the enemy in order to accomplish the mission."[9] This

definition is complicated by the association of maneuver with movement. In the defense, there is still a concept of maneuver even if no forces are moved. Maneuver is a comprehensive term related directly to mission accomplishment. Task-organized maneuver units are assigned missions that directly contribute to the accomplishment of the joint force mission.

Concepts of maneuver expressed in Joint Publication 3-0 are limited to land and sea forces.[10] Ignoring air forces as joint force maneuver elements places the air component outside of the realm of a mission-accomplishing force and totally within a supporting role of land or naval forces. This doctrinal oversight does not reflect the reality of airpower employment, or potential, and complicates any discussion of joint force integration. This joint doctrine omission explains the criticality of the definition of fires to airpower advocates.

The damage is magnified by the recognition in Joint Publication 3-0 that, "Land force attack aviation, if able to strike at the opponent's center of gravity, also has positional advantage."[11] Such a concept of attack aviation employment is only marginally short of maneuver for both land force and air force aviation.

Coordination. Coordination defines a warfighting imperative for some (Army and Marine Corps) and hides it from others (Air Force). Coordinating authority in joint doctrine is a command relationship.[12] Coordination implies an additive and therefore complicating layer. Joint force headquarters plan and monitor loosely. Components execute and coordinate with each other. In Army and Marine terminology coordination

defines an implementation process that facilitates, vice hinders, ultimate execution. Planning and execution are horizontal and vertical processes. Fires coordination is both integrated battle planning between maneuver, fires, and intelligence, and execution management that maximizes asset utilization and prevents fratricide. The complications of fires coordination are easy to see, in joint usage, the benefits are hidden.

Variances in definition of operational terms are symptoms of a larger challenge. Frequently, intelligent professionals fail to understand what the others are talking about, not because of definitions but because of basic differences in experiential framework. Airmen and soldiers may simply not be able to understand what the other is talking about because of cultural chasms. Experiences hinder not only understanding, but also the ability to explain. In such cases, definitions can support or refute without contributing to understanding.

FUNCTIONAL COMPONENCY

Joint force task organization and the nature of functional componency relates directly to the subject of joint force fires coordination. The definition and scope of authority of functional components are not clear. Functional componency is complicated by the interaction of conceptual perspectives in three areas: functions definition, environmental orientation, and mission accomplishment.

"In generic terms, the principal operational functions are: command and control (C2), with its associated C3I systems, intelligence, operational fires, operational logistics, and

operational protection."[13] These functions are also referred to as operating systems, or theater operating systems, and vary by service doctrine. Operating functions, however, exist at all levels of command. Coordination of operating functions is a primary responsibility of a commander's staff. A commander defined in terms of an operational function, e.g., maneuver commander or fires commander, is impractical. Coordination and integration of operating functions laterally and horizontally facilitates joint operations. Centralization of operating functions degrades operations. Grouping functions destroys the integration of operating functions as they exist and need to exist at subordinate levels of command.

Environmental orientation as a basis for functional joint force organization is contradictory because land, sea, and air components are inherently multi-functional. Additionally, land, sea, and air components have interests and objectives that are multi-environmental and, in most cases, have multi-environmental capabilities. Environmental orientation is not a function-- it is a convenient categorization of organization.

Functional component responsibilities are self-defined and are the basis of competition for assets. "This can be further explained as the Air Force having a 'horizontal' view of air power as a primary function, whereas the naval position takes a vertical view of air power as only one of several elements (i.e., naval gunfire, artillery, air, etc.) which require close integration of air and surface capabilities in order to achieve mission objectives."[14] The conflict is one of task organization to accomplish assigned missions versus organization to accomplish assigned functions. Missions and functions are distinct

concepts. Mission accomplishment requires command authority; functions merely require coordinating authority.

Two functionally organized components have the capability of conducting operational fire planning and vie for the authority to do so. The first of these is the Joint Force Air Component Commander (JFACC). "The JFC will normally designate a JFACC to exploit the capabilities of joint air operations through a cohesive joint air operations plan and a responsive and integrated control system."[15] Additionally, the JFACC exercises operational control over assigned forces and is responsible for "planning, coordinating, allocating, and tasking joint air operations based on the JFC's concept of operations and air apportionment decision."[16]

JFACC responsibilities represent a dualism that goes back to early arguments over the nature of air component responsibilities. "A principal difference is related to whether the JFACC is a 'coordinator' or a 'commander."[17] The JFACC is responsible for three functions. The first function is airspace control authority (ACA), which involves airspace management and airspace coordination. The second function is area air defense commander (AADC). Thirdly, the JFACC functions as a maneuver element of the joint force; capabilities incorporating the possibilities of airpower force application, from strategic attack to interdiction and close air support, define this role. The first function prevents fratricide, the second is a force protection function, and the third is a war winning or joint force mission accomplishing function. All three functions involve control over multiple component assets, but only the last one, joint force maneuver element, competes with the prerogative of the other components in the accomplishment

of their operational missions. Because airpower is the primary operational fires asset of the joint force, the JFACC assumes a unique relation to the joint force and the other components. The JFACC effectively controls the operational fires planning and execution functions of the joint force. The JFACC is subordinate to the JFC but, in the execution of operational fires planning and execution functions, holds a position superior to other components.

Competing with the JFACC for control of operational fires is the joint force land component commander (JFLCC). This functional component has a robust fire planning and execution capability based on established Army or Marine procedures for fighting integrated deep battle.[18] In CENTCOM, because the CINC retains status as the JFLCC, land component duties are delegated to the deputy joint force land component commander (DJFLCC) who serves, for practical effect, as the commander of the land forces of the joint force.

In cases where the JFC retains titular control of land forces, "The DJFLCC has responsibility for the planning and employment of operational firepower both in terms of developing an integrated multi-dimensional/multi-medium attack of the enemy's center of gravity and in terms of shaping the land force's future battlefield."[19] From a ground perspective, development of the JFLCC/DJFLCC concept is more important for control of operational fires than for the integration of land operations.

The fires coordination capabilities, expertise, and orientation of the JFACC and JFLCC are rigidly based on their environmental focus. Functional organization may facilitate the operational integration of similar (air or land or sea) forces. Functional

organization, however, does not facilitate the integration of functional components within a joint force. Functional componency should not be the basis for control of operational fires. Without the unifying influence of a coordinating agency at the joint force level, functional componency results in disunifying component competition.

JFACC is an expert in air operations. JFLCC is an expert in ground operations. Joint force planning requires expertise in both areas; otherwise, joint force synergism is at the mercy of service specific experts. Integration turns to segregation. Air and land operations planning should be based on, not preclude the requirement for, joint force fires planning.

Service componency and functional componency are merely two techniques of task organization. The appeal of functional componency is that it seems to resolve inter-component friction to the benefit of the joint force. The actuality is an increase in competition for exclusive control of joint force fires coordination in order to gain the advantage of asset control. In the area of fires planning and execution there is a role for the joint force headquarters.

DEEP BATTLE

All of the controversial aspects of joint force fires application are manifested in the practical debates over the concept of deep battle. "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."[20] In this one area there are conflicts of responsibility, asset utilization, and mission priorities.

Deep battle is schizophrenic. "Deep" can be defined in terms of friendly assets or in terms of an enemy force. In terms of friendly assets, deep is an inclusive term for the battlespace to the depths that can be reached with organic fire assets. In relation to an enemy force, deep battle implies a shaping function. Development of the concept of deep operations and shaping the battlespace have their roots in the AirLand Battle Doctrine developed to defeat the Warsaw Pact.[21] Deep operations extended to the depth of enemy formations. The hierarchy of air support for deep operations was close air support, battlefield air interdiction, and aerial interdiction. The army corps was the level of command deemed capable of conducting decisive deep maneuver. To be effective, battlefield air interdiction needed to be linked to the Army corps, an implicit subordination of airpower to ground maneuver.

Conflict results when shaping occurs outside of the range of organic assets or when effectiveness is contingent upon the use of other than organic assets. The joint force is predisposed to these occurrences because of the competing constructs of mission decisiveness and functional organization. Battlespace shaping for both the ground and the air components involves interdiction and strategic attack. Fires to accomplish these functions are organic and joint. When joint fires equate to airpower, either the air component bridles at subordination to the ground commander, or the ground commander feels a lack of appropriate support.

Deep battle is truly a challenge for joint force fires coordination. The problem is one of integration. At least three battlespace areas are pertinent. The first is the close battle, the area short of the fire support coordination line (FSCL), which is the area in which land and amphibious forces use fire support to engage the enemy. The second battlespace area is the deep battlespace, beyond the FSCL, in which the ground commander seeks to shape the battlefield and establish the conditions of operational victory. The third battlespace is that beyond the area of responsibility (AO) of the ground commander, the area of strategic attack. Within the deep battlespace, both the JFACC and the JFLCC have mission responsibilities and force protection obligations. "Clearly, if Army and Air Force systems are jointly involved in target acquisition and attack in this area, a very sophisticated coordination and synchronization effort must take place. A single fire support coordinator must be responsible for the integration of all joint systems in this joint battle area fight."[22]

"It is at the FSCL that a 'gray area' of battlespace management and control commences, and the issue of the JFACC's authority begins to contend with that of the land commanders."[23] Currently FSCLs are established by ground commanders. When an FSCL is implemented by a maneuver commander, he does not rescind any of his authority over allotted maneuver space. The FSCL defines an area of battlespace vital to the accomplishment of all joint force component missions. "Note, however, that in Army doctrine, corps commanders have an interest in the 'deep' battle. In fact, corps commanders may use FSCL placement as a tool to 'shape' the deep battle. Here is a classic case of a commander trying to manage a seam when he is not in control of units

operating on both sides of this seam."[24] The FSCL has become a de facto boundary, albeit not an assigned one, based on Army and Air Force usage.

In Korean warfighting scenarios, the issue is resolved by the use of a deep battle synchronization line (DBSL). The DBSL is a clearly defined boundary beyond the ground force commander's deep battle space in which the air component commander (ACC) controls the battle. The success of this solution is dependent on a very clear designation of authority and coordination responsibilities. The DBSL is coordination by decree. The problem not addressed in the DBSL concept is that once the action starts, situational dynamics will mandate continuous joint force level coordination decisions.

Use of the FSCL and DBSL is merely a procedural attempt to resolve a more profound complication of joint warfighting, battlespace management. Only the ground component is assigned battlespace. All components use battlespace.

Former Chief of Staff of the Air Force, General McPeak, added the concept of high battlespace to the argument. Deep and high battlespace would be the purview of the air component and close and low battlespace that of the ground commander.[25] Today both air and ground components have more expansive visions. The JFACC assumes control and prerogative in the same battlespace as the JFC, the joint operating area (JOA). The Army forces (ARFOR) commander seeks to extend battlespace to the depth of his area of interest, in the extreme, from CONUS to the enemy capitol and the entire depth of enemy battlespace. For a ground commander, a bounded area connotes authority for control and coordination. Functional componency also describes a delegation of authority. Because

joint forces apply fires on a multi-dimensional battlefield, there is an inherent friction between the prerogatives of boundaries and the prerogatives of componency.

Attempts to manage joint force battlespace by maneuver or fires support coordination measures can be thwarted by failure to understand a pertinent issue. Joint force fires coordination is not needed to help prevent the tactical interference of uncoordinated bomb drops. Joint force coordination is needed to prevent the operational interference caused by competing component objectives and asset allocations priorities.

OBSERVATIONS

The controversies surrounding doctrine, concepts of maneuver and fires, functional componency, and deep battle are vast and interrelated, inextricably tied to the warfighting philosophies of the components. The years' long delays in fires related joint publications may not be so incredible, considering the depth of delaying controversy. At the heart of all joint fires issues is the warfighting nature of the joint force. Warfighting philosophy, however, should be the basis of doctrine, not based on doctrine. Joint warfighting is hostage to the dynamics of established service positions.

Resolution of conceptual issues should not be dependent on the deconfliction of definitions. Nothing hangs on one word. It is not possible to shoehorn a warfighting concept into an approved definition. Resolution of definition differences may not solve any problems, but may actually preclude resolution by pre-empting options for verbalizing service unique operational concepts. Multiple definitions for single terms may be required.

Below the joint force level and outside of the arena of airpower theory, maneuver and fires are inseparable adjuncts. The integration of fires and maneuver have a place in the warfighting construct of the joint force. The controversies indicate a problem; the depth and nature of which are manifested in the nature of the contemporary joint force. The organizational nature and environmental characteristics of the contemporary and the emergent joint force will be examined in the next chapter.

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[23] David Annen, Joint Interdiction -- The Gray Area (Carlisle Barracks, PA: U.S. Army War College 1996), 5.
[24] Merrill A. McPeak, Presentation to the Commission on Roles and Missions of the Armed Forces (Washington, D.C.: Government Printing Office, 1994), 34.
[25] McPeak, 37.

CHAPTER III

THE JOINT FORCE

Mission competition and procedural controversy are merely manifestations of the organizational nature of the contemporary joint force. Despite variations of mission, geographical orientation, command structure, training, and procedure joint forces share a sharply defined organizational nature. Understanding composite characteristics illuminates the limitations of the contemporary joint force and the potential of the emergent joint force. The joint force is evolving, from an operational management organization to an operational warfighting organization. Figure 1 compares aspects of these two distinct entities.

General John J. Sheehan, Commander in Chief United States Atlantic Command, has defined three tiers in the evolution of Joint Operations: specialized joint, synergistic joint, and coherent joint. "Since 1990 the efforts of the Armed Forces have evolved from 'specialized' to slightly less than 'synergistic' joint warfare."[1] If "the lack of common joint doctrine has so far prevented the Armed Forces from reaching the synergistic joint level,"[2] it is the lack of a common warfighting philosophy that hinders progress towards coherent jointness. More specifically it is the lack of common operational understanding in key warfighting functional areas, fires perhaps the most contentious, that hinders joint warfighting advancement.

PRESENT	EMERGENT
Confederated	Integrated
Divided battlespace	One battlespace
Bottom up planning	Top down planning
Air is the primary deep Weapon	Multiple deep weapons
Suppression and neutralization	Neutralization and destruction
Casualty producing weapons	Casualty limiting weapons
Independent systems	Interoperable systems
Multiple operational commanders	One operational commander
Redundant capabilities	Complimentary capabilities
Service doctrine	Joint doctrine
Slow change	Rapid change
Rural terrain	Urban terrain
Compromise and arbitration	Command and control
Additive capability	Synergistic capability
Primacy of the Components	Primacy of the Joint Force

Figure 1. The Joint Force Environment. A comparison of joint force characteristics, now and in the future. The chart is descriptive and interpretive, combining characteristics and conclusions.

THE PRESENT JOINT FORCE ENVIRONMENT

Analogous to the confederation of states in our country's history, the composite headquarters of the joint force is a weak central authority at the head of an organization of proficient, but often competing, warfighting components. The nature of the contemporary joint force is parochial. Effectiveness is based on the additive capabilities of components. The joint force headquarters manages competition between operationally decisive elements of the joint force. There are several complicating factors characteristic of the joint force.

Multiple operational commanders exist in the joint force. "Operational art is practiced not only by JFC's but also by their senior staff officers and subordinated commanders."[3]

Newell points out in The Framework of Operational Warfare that "Sorting out the perspective from which they view war may be a bit more difficult, since the perspective of war changes depending on the situation, not on the level of command."[4] A corollary to this statement is that as the level of perspective changes the level of command does not change. Operational perspective and operational command are not the same thing. Component operational perspective, a theater-wide view, facilitates operational success, but only the operational commander is responsible for success.

Battlespace management in the current joint force environment is complicated. Management of battlespace is invariably done by ownership. Assignment of battlespace and associated responsibility to subordinate maneuver elements is a simple, effective, and time proven procedural method of fire support coordination. In a joint force, however, there are two unresolved complications. The first complication is that, although all components of the joint force use battlespace, not all are assigned battlespace. The second complication is that battlespace ownership and responsibility do not necessarily equate to authority and control of assets.

Air provides the primary deep weapons of the contemporary joint force. Joint forces are characterized by redundancy in air forces. Redundant capabilities complicate coordination. Within a joint force, controversy rarely surrounds the integration of dissimilar capabilities. More challenging, always, is the integration of redundant capabilities.

Joint force responsibility is outlined in current doctrine but not joint force tasks or procedures. Joint force fires planning is bottom up, a product of component effort and

interaction. The joint force serves only as an integrative agent of last resort. Because functional fire planning is not a primary responsibility of the joint force staff, ability to coordinate at an appropriate level is limited. Joint force integration occurs in response to, rather than precluding, component disagreement.

The plethora of coordinating boards and elements within a joint force is indicative of the weakness of joint force headquarters staffs. Joint operations centers monitor and consolidate information for the commander. Operational decisions remain the purview of the components. In the joint force headquarters, operational decisions are not made by watch officers despite the availability of high technology, common, operational pictures. Coordinating boards do not increase efficiency but compensate for inefficiency caused by the failure of the joint force staff to assume warfighting functions.

The strength and the weakness of the joint force reside in the individualized warfighting paradigms of the components. Singularly component capabilities can dwarf many of the world's armed forces. When jealous of organizational prerogative components generate complications of scale. Component primacy is the hallmark of the present joint force operational environment.

THE EMERGENT JOINT FORCE ENVIRONMENT

As the joint force assumes its rightful place as a senior warfighting headquarters, an increasingly centralized control organization will develop, a warfighting staff. Command and control will replace command, compromise, and arbitration as the joint force headquarters operational methodology. Effectiveness of the force will be based on

the synergism of integrated component capabilities instead of the strategic luxury of redundant confederated capabilities.

The universal availability of information will be a fact of the joint force. Common operational and tactical representation of events will be available to users, irregardless of need. Information availability will not lessen, but make more essential, the requirement for higher headquarters, as data overload increases the need for substantive analysis. Data technology is a simple matter of systems. Information technology is a more complex warfighting concern. Information management, interpretation, and dissemination by higher headquarters will not be obsolesced by universal information availability.

The future battlefield will be one of higher tempo, smaller, lighter forces, and empty battlespace. The nature of joint force firepower will change in a number of ways. Emergent weapon systems and munitions technology will make many fires coordination procedures and processes outdated, simply in terms of time. "Distributed firepower may become less efficient than centrally controlled firepower because distributed firepower, by its very distribution, may not be at the right place and time; whereas centrally controlled firepower, supported by distributed soldiers as sensors, can be brought to bear in its entirety at the right place and time as judged by the highest levels of command in the battle."[5]

The proliferation of operationally decisive, deep weapons will drive the implementation of joint force fires control to the joint force headquarters in order to

preclude divisive component competition. Deep weapons will not be component weapons but JFC assets subject to apportionment.

The precision revolution will continue at an increasing rate in terms of effects and accuracy. "With today's technology, the lethal area of explosive munitions delivered from a great distance is greater than the delivering system's radius of error...distant, unseen predators can kill with the first round."[6] Precision surface-fired munitions will provide components other than the JFACC with operational fire capabilities.

In the future, services will not have the luxury of developing redundant capabilities to preclude dependence on other components. "ATACMS [Army tactical missile system] is a good example of how redundant capabilities make battlefield effectiveness more difficult to achieve. The Army sees ATACMS as the instrument by which the corps commander has his own ability to fight deep."[7] Capabilities will be much more service unique and the integration of those capabilities will be a joint force responsibility.

The application of fires, albeit on a broad scale of response possibilities, will remain an integral part of military force employment. In traditional warfare, the application of fire coupled with maneuver won wars. In military operations other than war (MOOTW) scenarios, other functions will determine victory, e.g., delivery of foodstuffs, medical aid, etc. The 21st Century may need an "army of specialized armies" for mission accomplishment but the requirement for an "army of force application"[8] remains. Except in the most benign continental United States deployment, force protection remains an imperative. The continuing challenge will be to define the appropriate integrative actions

for the joint force level when combining means. Fires coordination is important and will continue to have a role.

Battlespace will merge and new procedural and positive methods of deconfliction will be utilized. "Title 10 federates the armed forces, while the battlespace is as indivisible as the cyberspace. It can no longer be divided into neat domains and parceled out to each service to fight its own war--the Navy in the littoral, the Army in the fields, and the Air force high and deep. They just keep getting in each other's way."[9] In the future, because firing platform location will be transparent to the requesting unit and because of the extended range of advance munitions, airspace deconfliction becomes an extremely complex challenge. In even a relatively small scale joint operation, the lowest level at which deconfliction may be able to be accomplished is at the joint force component level or at the joint force level. The deconfliction problem is not beyond the scope of current positive and procedural control techniques to solve. Computer assisted deconfliction in all five dimensions (depth, width, height, time, electro-magnetic spectrum) of the future battlespace are within reach. Whatever the airspace deconfliction solution is, it must provide for the quality assurance of a single agency with the requisite battlespace awareness to prevent fratricide.

One of the most dramatic impacts on the joint force is the urbanization of the world. "Military Operations in Urban Terrain (MOUT) is the likely future environment facing Joint Task Force Commanders."[10] The MOUT environment will challenge the most technologically advanced joint warfighting capabilities, more so than the reemergence of a peer military competitor. Urban wars will accelerate the production and use of non-

lethal and casualty reducing weapons. In the urban environment command, control, and coordination will be vital and must be provided by the joint force.

The hallmark of the emergent joint force environment is primacy of the joint force.

JOINT FORCE DYNAMICS

The joint force is an evolving organization. Confederated or integrated, the need for change is moot. Change is occurring. Joint force headquarters are evolving as warfighting organizations, despite entrenched efforts to maintain status quo. Two areas serve to highlight the dynamic nature of the joint force--intelligence and logistics. In both areas, traditional service functions are being centralized in the joint force headquarters based on practical need. Intelligence is the farthest ahead in improvement. The intelligence community discovered that there was a need to integrate diverse intelligence functions at the highest level to insure maximization of assets, integration, deconfliction, etc., in order to provide good joint force intelligence in support of a common operational objective. The use of fusion centers and Joint Intelligence Centers (JICs) at joint force headquarters is a manifestation of the realization that intelligence is a warfighting function appropriate at the highest joint force headquarters level. Logisticians are coming to the same conclusion. If the joint force headquarters abrogates logistics responsibilities, there is potential for degradation of the entire force because of component competition for scare resources. Contracting for locally obtained commodities is a simple example. The danger of a rush to contracting by component level contracting authorities has led some PACOM joint task forces to utilize a Joint

Support Group (JSG), in which all component contractors are centralized under a joint force headquarters functional lead. Logistics functions will continue to centralize because the competition for resources is unacceptable for joint force operations.

Interestingly, two key warfighting functions, maneuver and fires, are jealously maintained at the component level. Maneuver is only nominally a joint force warfighting concern and fires often not a concern at all. These functions, intrinsic to most theories of armed conflict, are not well defined nor robustly planned for or executed by joint force headquarters.

Components normally have more expertise than the joint force staff. Frequently attributed to the ad hoc nature of joint staffs, this explanation is no longer sufficient. Combatant commanders have standing headquarters. Joint task forces are formed around permanent service headquarters. Joint forces are well trained, procedures are established, and there is a solid basis of operational experience. Additionally, it would seem component headquarters, organized to train and equip forces, should have the disadvantage relative to joint force headquarters in the operational arena. The difference is that services are vested in the factors of theory and doctrine. Joint forces do not currently have the capability, in terms of systems, personnel, or expertise, to accomplish warfighting functions. Joint forces are not enfranchised for decision making.

There is a question of operational decisiveness. Components each have a vision of war winning or operational mission accomplishing actions. Components compete for the primacy of their vision of war winning missions with each other and with the joint force. As experts, the components have the advantage in this competition.

OBSERVATIONS

Currently the joint force is a confederated system in which the components hold primacy in warfighting decisions. The system is one in which the components compete for assets, missions, and battlespace with each other and with the joint force. The theoretical construct of how to fight a joint force is nascent, the practicalities even more so. The component best prepared early with a warfighting solution wins out over the joint force and the other components, not because of the inherent logic of the solution but because of the systemic weakness of the joint force. "...the Air Force came to the Gulf conflict as the only DoD institution with an integrated theory of strategic air warfare and the doctrine and requisite systems for applying it."[11] There are a number of possible explanations for this state of organizational affairs. The primary reason is that, for the joint force headquarters, warfighting is more complex than institutionalizing any single theory of warfare. The joint force headquarters must amalgamate the multiple existing methodologies of the components. Complicating achievement of this imperative, however, is the fact that component warfighting constructs are not self limiting but are routinely interjected as the basis for fighting an entire joint force.

Component solutions, although potentially substantial, are inherently incremental and stagnate. Joint solutions are both potentially substantial and potentially dynamic. In the future, substantial progress can be made in two ways. The first is by developing the warfighting potential of the joint force by empowering the joint force headquarters and making the joint force a warfighting entity. The second is to develop something that in

no way looks like our modern joint force. Service and joint warfighting constructs and visions of the future will be examined next.

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[1] John J. Sheehan, "Next Steps in Joint Force Integration," Joint Force Quarterly, Autumn 1996, 42.
[2] Ibid.
[3] U.S. Joint Chiefs of Staff, Doctrine For Joint Operations. Joint Publication 3-0. (Washington, D.C.: 1995), II-3.
[4] Clayton R. Newell, The Framework of Operational Warfare (London: Routledge, 1991), 48.
[5] Brian Nichiporuk and Carl H. Builder, Information Technologies and the Future of Land Warfare (Santa Monica, CA: RAND, MR-560-A, 1995), 66.
[6] Robert H. Scales, Firepower in Limited War (Novato, CA: Presidio Press, 1995), 243.
[7] Merrill A. McPeak, Presentation to the Commission on Roles and Missions of the Armed Forces (Washington, D.C.: Government Printing Office, 1994), 55.
[8] Nichiporuk, 79.
[9] Richard Szafranski and Martin C. Libicki, "Or Go Down in Flame?," Airpower Journal, Fall 1996, 67.
[10] Stephen J. Mills, Military Operations in Urban Terrain (MOUT) A Future Perspective for a Joint Environment (Newport, RI: Naval War College, 1997) vii.
[11] James Winnefeld and Dana Johnson, Joint Air Operations (Annapolis, MD: Naval Institute Press, 1993), 55.

CHAPTER IV

WARFIGHTING CONSTRUCTS AND VIEWS OF THE FUTURE

Currently, there is competition between service warfighting constructs. Visions of the future do not resolve that conflict. The only way to solve it is the emergence of the joint force as a warfighting entity.

DECISIVENESS

Decisiveness is the fundamental justification of warfighting philosophy. There is an inherent danger of associating method with victory; what method is needed to win is not readily apparent, before or even after the fact. Even more obscuring is, that what was successful is not necessarily what won. Two frequently shared observations on the Desert Storm victory serve to illustrate these points. The first defines an air-centric view, "If it hadn't been for the air campaign we would still be fighting in Kuwait." The second defines a land-centric view, "If it hadn't been for the ground war we would still be bombing Baghdad." Both observations merit consideration. The simple resolution is that if it hadn't been for the joint effort, we would not have won.

If decisiveness is defined in terms of a preponderant force used to achieve an objective then airpower can be decisive. Both the Berlin airlift and recent air operations in Bosnia are examples. Army proponents proclaim decisiveness based on a unique capability to occupy ground. Basic service doctrine hinders jointness because of competing ideas of

strategic result. "The Air Force, for example, believes that strategic aerial bombing can severely cripple an enemy's homeland, interdict strategic lines of communication, severely damage or destroy an enemy at the front, and generally serve as an effective coercive tool, independent of other military operations. The other services have equally explicit ideologies derived from their historic and traditional roles in providing combat capabilities for a specific type of warfare--the Army for land warfare and the Navy and Marine Corps for maritime warfare."[1] The bottom line of effectiveness is accomplishment of the national strategic objective. There is no monopoly on decision. There is a spectrum of physical response, the joint force solution.

The usefulness of the joint force is in integrating varied warfighting constructs. Warfighting capabilities can only be coherently integrated under a common warfighting philosophy. Component divergence is the catalyst of joint force evolution. The joint force headquarters develops because it must. Friction exists between components over mission and means and between components and the joint force headquarters for similar reasons. Fires and maneuver, as valid concepts of joint force warfighting, must come into vogue simply because of the relative importance of maneuver and fires to land component methodologies of warfighting. What is not apparent is what elements the air component methodologies must bring. Maneuver and fires cut to the heart of joint force employment and the prerogative of components. The meaning of these terms to the joint force can threaten components. The solution is either the compromise of confederation, with no melding of warfighting dogmas, or it is a truly joint force solution, something yet to be defined and fully expressed.

WARFIGHTING CONSTRUCTS

Land-centric and air-centric campaigns represent two extremes of potentially decisive warfighting methodologies. These unflattering terms, based on the operational dogma of their proponents, reflect competing extremes of warfighting philosophies existent in the joint force. The land-oriented construct is maneuver supported by fires. The air-oriented construct is fires supported by maneuver. A joint warfighting construct stands between the two. These three warfighting constructs, depicted in figure 2, interact laterally within the contemporary joint force. An additional environmental construct, sea-based, seeks to interact horizontally, in an integrative manner, with the joint force. The utility of land-centric combat is historically based, air-centric combat theoretically based, and joint-centric combat intuitively based.

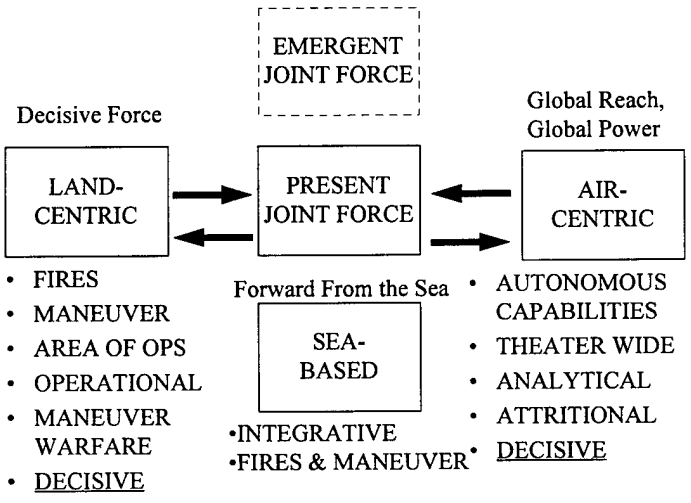

Figure 2. Warfighting Constructs.

Land-Centric. The Army's construct for decisive combat is codified in FM 100-7, Decisive Force: The Army in Theater Operations. The Army is the nation's decisive, large scale land force.

> People live on land. Most economic activity is land-based. We raise our families, grow our crops, and manufacture goods on land. The application of military force on land is an action the enemy cannot avoid and therefore, unlike other forms of power, the employment of the Army forces a decision. The enemy must respond, he must make a decision to either fight us or accede to our demands.[2]

Decisive force couples a combined arms approach with a concept of full dimensional dominance to achieve dominant maneuver. "The Army does not fight as a unilateral force. It integrates and synchronizes its efforts within its battlespace with the other service components to enhance operational capabilities."[3] The resultant depth and simultaneous battle dynamic impinges on the prerogatives of fellow components in aspects of battlespace control, asset utilization, and integrative planning. "In conducting a simultaneous attack in depth the commander will attack high payoff targets using organic and supporting long range fires, both lethal and non-lethal, and combined arms maneuver."[4]

Decisive force is an expansion of traditional land force warfighting concepts based on the integration of fire and maneuver. It establishes patterns of joint warfare easily integrated with land warfare, i.e., a pattern of joint warfare based on land warfare. Air is viewed as an enabling capability and is subordinate to maneuver.

> This is both an air and ground battle with prompt, all weather strike coming from Army tactical missile systems or helicopters, and deeper or less time sensitive targets being engaged by air forces. Thus the conduct of precision strikes requires the ground force to have extensive sensors identifying targets through the depth of the battlefield; robust command, control, communications and intelligence systems to rapidly direct multiple strikes; and control of a variety of shooters which can rapidly act to destroy enemy targets and facilitate both close and deep maneuver.[5]

The decisiveness of land warfare has historic basis; the world wars of this century serve as examples.

Air-Centric. For a service that developed out of doctrinal controversy, the Air Force for most of its history has been characterized by a rather detached view of doctrine development. Only recently has the Air Force Doctrine Center been established. There has been, however, no dearth of airpower theorists. Today the prophets of airpower are no longer heretics but visionaries. Technological advancement in air systems now means that the Air Force is approaching the capabilities to do the things theorists said airpower would attain over 70 years ago.

An air-centric warfighting construct seeks decisive, results based on the autonomous employment of airpower. "...The Air Force has its own priorities, and its fighters have become a semi-strategic light bomber arm with little thought given to their role in furthering land and coalition warfare."[6] The decisive results of airpower are theoretical. Based on the steadily accruing data of operational wartime experiences, from the First World War to Desert Storm, "The Air Force contends, once incorrectly although perhaps

correctly today, that its bombers and fighters can unilaterally smash an enemy and attain victory with few casualties."[7]

Though the vision is maneuverist, the application is attritionist. Application focuses on target sets and destruction. "The Air Force employs tactical aviation in an applied firepower, attritional mode."[8] Airpower employment is firepower employment; parallel and simultaneous warfighting that shocks the enemy's command, control, and infrastructure.

Sea-based. Before airpower, seapower theorists argued the strategic potential of their warfighting arm. Submarine and surface blockade failed, however, to singularly achieve decisive results in the world wars of the 20th Century. The mature sea-centric warfighting construct, expressed in "Forward From the Sea," is an integrative vision of warfighting that holds some useful lessons for joint operations. The sea-based warfighting construct has historically been cross environmental, once integrating land and sea forces; now integrating air, land, and sea forces. Seapower is an enabling concept, the decisiveness of seapower situationally dependent. "...Naval forces will have to adapt as they have done throughout history to changing circumstances. For that reason, it is important that naval forces avoid a narrow definition of their capabilities."[9]

The Marine Air Ground Task Force (MAGTF) is another integrative concept of force employment. "The MEF's [Marine Expeditionary Force] battlefield success depends on a commander and staff capable of understanding this battlespace and exploiting its

opportunities. ...To do it correctly, the commander and staff must develop a philosophy which is neither air nor ground in its orientation, but that of the MAGTF Marine."[10]

Joint-Centric. The substantial contributions of any single warfighting construct are not debatable; the ability of a single, environmentally oriented force to achieve decision across the spectrum of force employment opportunities is doubtful. The utility of the joint force resides in the realm of intuition and because of that, joint warfighting has historically developed out of the imperative of practical need. From the Revolutionary War to the present, the strange bedfellows of joint warfighting have been the result of either battlefield error or exigencies of circumstance. Goldwater-Nichols has given joint warfighting a legal basis, but the mechanics of joint force employment, unfortunately, remain based in intuition. The joint force isn't moving ahead as fast as the services in the practical mechanics of warfighting, training, manning, equipment, doctrine, and procedure. "It took three years of debate to create the ACOM concept... We had to make joint training the rule and ACOM was created, in my mind, for that purpose."[11]

VIEWS OF THE FUTURE

Each service struggles with the future. Force integration and fires coordination is a contemporary problem. But it is insufficient to understand only the contemporary perspective. In a technologically advancing arena, science may solve a complication or it may obviate both problems and solutions. Technology either closes a gap, increases a gap, or makes the gap irrelevant. In the case of joint force fires coordination,

technological advancement compounds the problem. Joint Vision 2010 is an attempt to preempt the problems and meet the challenges of the joint warfighting future.

"Joint Vision 2010 recognizes that all warfighting capabilities brought to bear in joint operations are crafted by the services."[12] Joint Vision 2010 introduced four operational tasks--dominant maneuver, precision engagement, full-dimensional protection, and focused logistics. Figure 3 depicts offshoot service visions that grasp the single operational concept closest to their traditional warfighting concept and expand it to decision. Two future concepts, the Army's Force XXI/Army After Next and the Air Force's Global Engagement, are visions of decision based in the controversies of today. The divergence grows. All of the service visionary constructs notionally adopt joint integration and verbalize it. What they really look at is the present and the struggle to maintain the component prerogative.

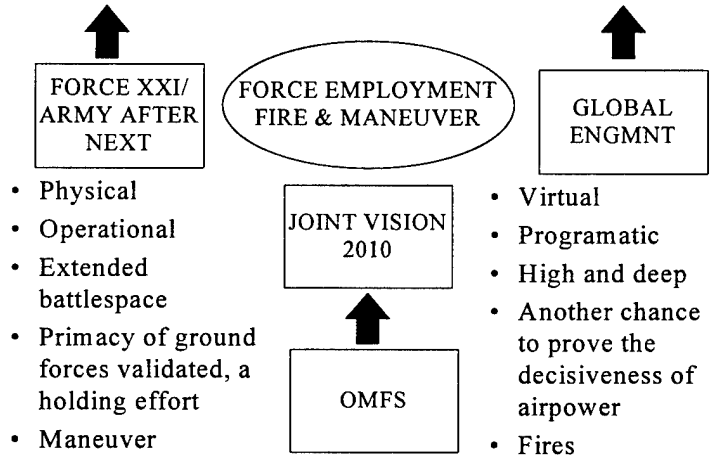

Figure 3. Views of the Future.

Force XXI/Army After Next. In the future, the span of control and therefore the area of operations has expanded for a ground element. The piece of turf the ground commander can observe and attack has been enlarged. The types of operations conducted in this expanded battlespace are no longer linear. Independent elements in battle zone, non-contiguous with neighbors, put a large burden on the higher headquarters to command, control, and coordinate the assets moving and operating in their sectors. Army battlespace is so expanded that an arbitrary line like the fire support coordination line (FSCL) is impractical. Military, economic, and political objectives in the expanded battlespace are all part of the ground commander's purview. A soldier's utility may best be as a sensor, particularly because of the ability of a human to process and interpret information. "Since firepower on the battlefield comes increasingly from long range systems that can be centrally controlled and precisely targeted, firepower provided directly from the soldier may become less important than the information the soldier can provide to higher levels that can allocate and target the firepower."[13] This is the basis for the reemergence of maneuver.

Based on the operational concept of dominant maneuver, the vision of Force XXI argues that ultimately only physical presence can win. Therefore everything is in support of the ground maneuver campaign. The vision is an Army attempt to maintain a dominant role in joint warfighting.

Global Engagement. With a programmatic view of precision engagement, the Air Force advertises that with investment in this or that system, they can kill anything. "With

air and space superiority, the Joint Force can dominate enemy operations in all dimensions--land, sea, air, and space. In the 21st Century, it will be possible to find, fix or track, and target anything that moves on the surface of the earth."[14]

"The theorists of airpower in America have continued to seek vindication of service independence in unmistakable evidence of the capacity to achieve decision in war by independent action in and from the air."[15] The strategic basis of this phenomena has been curtailed somewhat by the impracticality of getting rid of the rest of the services. The argument is now at the operational level. If the strategic merit of singularity has not been proven, the operational merit is the focus of current debate. "Control of the air will provide the single greatest firepower advantage to American forces in the future."[16]

Operational Maneuver from the Sea. The environmentally integrated approach of "Forward...From the Sea" is continued in Navy/Marine vision of "Operational Maneuver From the Sea". This maneuver warfare-oriented vision of sea-based warfare could almost be the basis for joint warfighting except for the exclusion of air as a maneuver force. The following quote is telling: "The search for decisive effect is common to all forms of operational maneuver, whether on land, at sea, or in the littorals where land and sea meet."[17]

The imperative of jointness. Joint operations over the last decade have been universally successful. United States military primacy is based on a strategic depth provided by redundant Service capabilities and the lack of a peer competitor. Success

masks the need for change and improvement. Mission and asset competition are degrading factors. "Simply to retain our effectiveness with less redundancy, we will need to wring every ounce of capability from every available source. That outcome can only be accomplished through a more seamless integration of Service capabilities."[18] In the future, "a JFC orchestrating a battle must rapidly process and disseminate information to his forces and deny an enemy sanctuaries of time and space. In sum, joint forces will have to be thoroughly integrated to fully exploit the synergism of land, sea, and air combat capabilities."[19]

Capability is a comprehensive concept that is a routine justification for force decisions. Capability equates to basic competencies, roles, and missions. Joint forces are characterized by redundancy in both land and air capability. It is not the distribution of forces that creates this redundancy but service warfighting philosophies that seek the autonomous ability to achieve decisive impact in force application. The most dangerous redundancy is operational, the capability for more than one commander in a force to achieve operational decision.

THE CLASH OF PHILOSOPHIES

> But the Department of Defense (DOD) does not have a marketplace, nor do we have really good measures to judge competing capabilities-especially when they are used across varying spectrums of warfare and over an exceptionally long time frame. Instead, reduction and expansion of certain capabilities will be accompanied by continuing argument--not defining measurement--by sophisticated people.[20]

Fires is part of a bigger controversy of how different operators view what goes on in the battlespace. "When officers from different services work together conducting joint

operations from the operational perspective of war, they have to understand that there may be deep-seated cultural reasons why they may have different ideas on how to solve problems."[21] Fires and maneuver are not a natural discussion for an airman. What they do does not fit into the fire shoe box and the maneuver shoe box. Effects are means the Air Force uses to accomplish objectives.

Desert Storm operations provide an example of the competition of operational visions. "The timing of the transition from the strategic phase to the battlefield preparation phase of the air campaign was a source of friction between the Army and Marine components on one hand and CENTAF [Commander Central Air Forces] on the other."[22] "As the ground war approached, the two corps commanders became increasingly uneasy about what targets, rather than how many targets, had been destroyed."[23] Integration was based more on lobbying by ground components vice dedicated planning by an air staff subordinated to a common commander. "The debate that ensued during Desert Storm over how airpower would be applied was not the result of any loss of faith or ill will on either side. More than anything else, it reflected a sincere difference of opinion brought on by inherent divergence in the respective operational environments that separated them."[24]

The varied operational perspectives result in two levels of operational command, component and joint force, vying for operational authority and responsibility. "The operational perspective, the newest of the three perspectives of war, originated with land warfare. While armies tend to explain the operational perspective of war in terms

applicable primarily to ground warfare, relevance to air and sea warfare must also be considered."[25]

The capability for more than one commander in a force to achieve operational decision means that there is inherent friction in the force. In such a case, the solution is to configure the force appropriately. Jointness is not an imperative. During the recent China-Taiwan tensions, US military actions were primarily carried out by the commander of the US Seventh Fleet in his role as Commander, Seventh Fleet, vice in his role as the primary PACOM maritime joint task force commander.

Joint Vision 2010 is not the unifying document its authors had hoped to develop. It is a construct for the further refinement of competing operational visions. The joint force must be developed to determine the war winning solution. More specifically the joint force headquarters needs to be established to plan and fight the war winning solution.

The Department of Defense Deep Attack Weapons Mix Study (DAWMS) has set off a complicated political and fiscal debate divided along land- and air-centric lines. The bottom line debate, however, is not about money. The deep battle argument is over control of assets beyond the FSCL and is based in competing warfighting constructs.

Joint forces are approaching a theoretical impasse. Service doctrine is diverging to the point of impracticality. Joint doctrine does nothing to tie the divergent concepts of warfighting together and thus only the push of practicality binds. Service doctrines are like powerful rats in a weak paper bag called joint doctrine. The bag can barely contain the combatants as they struggle against each other and the constraints of their prison. Joint doctrine never has been able to establish harmonious working relationships. The

consensus of need is an important dynamic of joint force operations. Component workarounds can no longer compensate for the divergence. More and more the compromise occurs at the joint force headquarters, a place long reluctant to execute warfighting decisions of import.

Each component seeks decision to the extent that they compete for decisive effect not only with each other, but also with the joint force. The battle is not one of glory, honor of participation, money, or service existence. It is a much more profound battle of deep-rooted concepts of warfighting. These controversies are difficult to deal with and present a substantial threat to service harmony. "The most often heard argument is that service rivalries and parochialism are about dollars. No, it is about deeply held convictions and fundamentally different views of warfighting. That is what motivates military officers."[26]

The usefulness of the joint force is in integrating varied warfighting constructs. Warfighting capabilities can only be coherently integrated under a common warfighting philosophy. The solution is either the compromise of confederation associated with redundant capabilities, with no melding of warfighting dogmas, or it is a truly joint force solution in which complementary capabilities are integrated, something yet to be defined and fully expressed.

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CHAPTER V

FIGHTING THE JOINT FORCE

The question of how to fight the joint force is simply how to fight components. Components, and therefore the joint force, can be fought in two ways, confederated or integrated. Both approaches can be effective. Confederated is how joint forces are currently fought. Integrated is how joint forces aspire to fight. The role and utility of the joint force headquarters, and joint force fires coordination, are different in these distinct approaches to joint warfighting.

JOINT WARFIGHTING

> In that moment Ender learned for the first time what his own fleet would consist of and how the enemy fleet was deployed. It took him only a few minutes now to call the squadron leaders that he needed, assign them to certain ships or groups of ships, and give them their assignments. Then, as the battle progressed, he would skip from one leader's point of view to another's, making suggestions and, occasionally, giving orders as the need arose. Since the others could see only their own battle perspective, he would sometimes give them orders that made no sense to them; but they, too, learned to trust Ender.[1]

The confederated joint fight is an amalgamation of component fights. Confederation is more than organization by intact service structure, it is organization by autonomous component. Results are cumulative, inherently limited to the sum of component capabilities. Effectiveness is based on the luxury of strategic depth and redundant capabilities.

In a confederated joint force, competition, between components and between components and the joint force headquarters, hazards effectiveness. In a confederated joint force, a joint force fires coordination agency is a competitor in the warfighting process. Participation in the competitive process explains a great deal of the controversy surrounding joint force headquarters fires coordination agencies such as the JFFC.

An integrated joint fight is one fight. Operating systems and component capabilities are managed at the joint force level. The joint force fight is based on unique perspectives of time, resources, and objectives. Result is synergistic. Integration is dependent on the expertise and capability of integrative agencies. The joint force headquarters is an integrating agency. Fires coordination is an integrative function.

In both confederated and integrated warfighting approaches, components are the maneuver elements of the joint force. The JFC provides missions, guidance, and supervision. In each step of that process, there is a role for a fires coordinator. Fighting the joint force requires planning and executing actions critical to success or failure of the joint force mission. Decisions include battlespace management, battle shaping, and deconfliction (mission, asset, and force) functions. These functions, important in the divided battlespace of a confederated joint force, are even more important in the single battlespace of the integrated joint force.

INTEGRATION

"JFCs must be able to integrate service capabilities to achieve common tactical and operational objectives. These integrated joint forces must accommodate the natural battle

rhythms and cycle of land, sea, and air warfare."[2] The joint force is organized to fight by compositing elements that have warfighting as a primary capability. Because service organizations are uniquely organized and equipped to fight, the complexity of the joint force fight is about the integration of already integrated, service unique capabilities. The compositing and direction of the force is a warfighting responsibility that can only be understood in terms related to the cumulative effort of broad operational operating systems such as intelligence, logistics, maneuver, and fires.

The warfighting needs of the joint force drive fires coordination functions and structure. The overarching fires coordination function is the integration and synchronization of component capabilities. Integration should enhance both the direct accomplishment of joint force objectives by using fires and also enhance the indirect accomplishment of joint force missions by supporting component missions with fires.

Integration and synchronization are distinct concepts. Both contribute to synergy. Processes and capabilities are integrated; resources and activities are synchronized. Integration can only be achieved vertically. Effective synchronization is vertical and horizontal. Integration facilitates synchronization. In a brief to Congress on Service roles and missions in 1994, General McPeak made the observation that "...organizations exist to achieve some purpose and that there are processes that will need to be integrated to accomplish the mission. All of this is simple common sense and everyone can agree on it. But, someone must do the integration and it is here that the controversy arises."[3] In a joint force, the controversy starts first over what functions to integrate, then migrates into the arguments concerning who and how.

"The development of the concept of fires is driven by the need to integrate the delivery of ordnance throughout a campaign as weapon accuracy, lethality and cost have increased and weapon system ranges have increased and overlapped."[4] "One of the impacts of the inclusiveness of fires is to expand the traditional battlefield."[5] The expanded battlespace is full dimensional and beyond the operational experience of the current constructs of ground or air battlespace. In this joint battlespace, very unique warfighting functions occur.

Two things are changing the nature of the battlespace: first, the dramatic increases in weapon ranges and lethality, and second, the urbanization of the world. Decisive combat will occur in what used to be close battlespace. Close battlespace will expand as land force mobility, survivability, and lethality expand. Deep battle will shrink as populations, threats, and militarily important objectives concentrate. When all components can substantially, if not decisively, impact across the depth of the force battlespace, the result is one battlespace, one battle, a joint battle. The joint battle must be shaped by the joint force. In MEF operations, "terms like deep, close, and rear operations only exist to support the understanding of the battle or to facilitate the employment of combined arms. They are not necessarily linked to geography, and should not be used to create artificial subdivisions or areas of responsibility."[6] To paraphrase, terms like deep, close and rear operations only exist to support the understanding of the employment of joint force capabilities. They are not linked to geography, and should not be used to create artificial subdivisions or areas of responsibility.

With the goal of decisiveness, the air-centrist wants to de-couple from the land fight. Consolidation of deep assets allows the reduction of aircraft committed against close targets and puts aircraft against the deep fight. With the same goal of decisiveness, the land-centrist seeks to subordinate all fires assets to a view of land warfare as, ultimately, the only war winning environment. Components are the experts and with the advantage of manning, systems and procedure steamroll the zealous amateurs, the joint force headquarters. The solution is the development of the joint force staff as a warfighting staff.

The joint force staff is a key integrative agency. Vertical and horizontal linkages are critical to integrated and synchronized effort. Vertical staff coordination facilitates flow of information to subordinate and higher staff counterparts. "Because there is a vertical linkage among objectives at each level of war, there is a basis for relating and comparing functions at one level with functions at the other levels."[7] The joint force staff is a wasted asset if limited to a monitoring role after publication of the campaign plan. A warfighting staff has another important role, as a conduit to and from the commander. Traditional staff input is important. The commander's staff gives a unique and needed perspective to information.

Joint force fires coordination also involves the integration of non-lethal and information warfare capabilities and rules of engagement. In a combined force, coordination includes the integration of coalition capabilities. Asset integration is a joint force responsibility.

UNITY OF EFFORT

> ...in spite of the progress made in truly integrated planning, many of the old problems remain: the focus on mission rationalization and on one service supporting another, rather than on true force employment integration; the concentration of force employment planning in service specific rather than joint commands; and the rather detached view that theater commanders sometimes take of joint planning efforts by subordinate commanders and of related exercises conducted in theater.[8]

Unity of command in the joint environment is in many ways a myth. Nominally, unity of command does not exist below the combatant command level. In practice it does not occur even there. Joint force missions are frequently dependent on other CINCs' assets. United States Transportation Command (USTRANSCOM) assets are not normally commanded by the JFC but are vital to mission accomplishment. Control of space assets is a liaison function.

The autonomy of component forces complicates unity of command. The problem with fighting a joint force is that at the basic structure, there are institutional barriers that will prevent the achievement of true jointness. An example is the Marine Air Ground Task Force (MAGTF). MAGTF is joint in a bubble but it is not joint. "In the past, the Marine air was owned, tasked, and controlled by the Marine commander. In the future, this may not necessarily be the best method of effectively and efficiently using these assets."[9] Special Operations Forces (SOF) are another example, a pocket of jointness in a confederated force.

Unity of effort is hazarded by an absence of functional warfighting agencies at various levels in a force, a characteristic of most joint forces. In the absence of unity of

command, a method of effecting unity of effort is required. Supporting relationships and the designation of main effort are two mechanisms to achieve unity of effort.

Support is not a command authority. Supported and supporting relationships and associated responsibilities must be well defined. The designation of a support role is valueless if subject to multiple component interpretations. There is an inherent disconnect in the simultaneity of delivering support to and procuring support from a fellow component. In joint forces, a unit can be supported and supporting, dependent on battlespace organization. This occurs when the JFLCC is supporting the JFACC in the overall air interdiction effort and the JFACC is supporting the JFLCC in the support of ground maneuver. There is no universal, routine, or even doctrinal primacy of effort for the application of fires in this "unintegrated" battlefield. The JFC must arbitrate and must have a staff agency capable of arbitration (coordination). "Consequently, a single individual should coordinate, integrate, and synchronize all battle interdiction operations for the JFC." [10] Trust complicates unity of effort based on supporting relationships. The complication is that very often components have different opinions about what is the best course of action. In such a case components can absolutely be trusted to do what "they" feel is best.

Designation of a main effort is based on a vision of victory. When a unit is designated the main effort, it should be ruthlessly supported even at the tactical expense of other units. The operational main effort cannot be undermined by tactical need. Supporting a main effort is a tough process in joint operations. Designation of the main effort is meaningless if subject to competing interpretation. Perspective is what counts. Because

fires and logistics are two of the most important functional areas in which meaningful support can be given to a main effort, a joint force fires coordination agency is a key element in establishing unity of effort.

COMMAND AND CONTROL

Centralized control and decentralized execution is a frequently quoted paradigm of fires, force, and airpower application. The expression has become an operational imperative, but in reality is not even descriptive. The current joint force system is decentralized control and decentralized execution, with control and execution delegated to the components.

At the air and land component level, based on the imperative of command responsibility, the system is centralized control, decentralized execution. In the air component, control and coordination occur in a networked C2 system of limited vertical depth but extensive horizontal breadth. In a land component, vertical depth is extensive and horizontal breadth is limited. The dictate is nominally the same, but in practice the paradigm is transformed. In the competition for control of assets, the dictate overrides the paradigm. The importance of command responsibility exists for the joint force. The joint force headquarters should be the centrally controlling headquarters.

Top-down planning is another frequently quoted directive of joint force operations, used at the component level and ignored at the joint force level. Top down planning increases force agility through speed. Bottom up planning is comprehensive, in terms of expertise, consideration of variables, wargaming and plan review. One method does not

preempt the benefits of the other and does not mitigate responsibility. Both planning models have pros and cons based on situational aspects of the planning problem. Higher headquarters play a key role in both models. A joint force fires coordination agency has a role in both models. Bottom up planning is desired; top down planning is operationally and tactically useful. Both planning models are dependent on the expertise of fires planning.

OBSERVATIONS

Integration and synchronization are based on more than mission assignment. Integration is dependent on co-opting not only capabilities, but also operational warfighting perspectives. Synchronization is dependent on foreseeing mission competition. At the joint force level, the effects of fires can be equivalent to the effects of maneuver but are less well understood. Fires coordination involves coordination with maneuver but also coordination of fires with fires. In fighting the joint force, despite dramatic increases in the potential for fires alone to achieve decisive result, the integration of fires and maneuver still provide the best chance for decisive result.

A joint force is responsible for integrating diverse concepts of maneuver and fires. More than the integration of maneuver and fire, this responsibility involves the integration and synchronization of theories and conceptual frameworks.

The joint force needs to incorporate, not arbitrate, the deeply held component convictions. It is more than consolidation. Joint force employment is not about the

primacy of one construct. There is only one fight and the commander is responsible for mission accomplishment and the welfare of the force.

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CHAPTER VI

JOINT FORCE FIRES COORDINATION

Joint forces are warfighting organizations and have fires coordination responsibilities, but at the joint force level, coordination is not a routine function. The JFC defines objectives and provides guidance, the J3 assigns tasks, but there is no staff agency that has proven capable of conducting coordination. Fires functions and agencies exist vertically and horizontally across the joint force but vary dependent on componency and operating level. The challenge of joint force fires coordination is to define the specifics of joint force coordination, in terms of functions and agencies, despite the diversity of functions and agencies across the force. The challenge is complicated by the diversity of warfighting theories, component perspectives, and the limitations of joint force headquarters practical capabilities.

FUNCTIONS

There is an incredible array of mission employment opportunities for joint forces across the spectrum of MOOTW to high intensity regional conflict. Each opportunity represents a unique challenge characterized by diverse threats and definitions of success. A challenge of fires coordination is responding to mission diversity. Component-based coordination is less flexible in response to diverse missions and threats than the joint force, simply in terms of capabilities. To achieve synergistic potential and effectively

meet the challenges of the mission spectrum, the joint force requires a concept of fires that is functionally defined. Functions are based in current procedures and are the broad based, continual factors of fires coordination.

Defining joint fires. A principal challenge is defining the force fires that need to be coordinated. One perspective is that all systems and fires of the joint force are joint fires: "... the development of long-range fires and the advent of multi-role aircraft make the concept of direct support firing units less of a requirement. All assets may in fact be in general support and provide fires as tasked."[1] This is an impractical definition. Components are the key warfighting organization of the joint force and degradation of component ability is not without risk. Component assets are key to component success.

Another perspective is that in reality there are no joint fires assets. Because all fires assets belong to components and are employed by components, all fires of the joint force are organic fires. This is another impractical definition since it precludes the synergism of joint component efforts.

Component assets with the capability to engage operationally threatening or operationally decisive targets, assets that can range the joint battlespace, and precision assets with high assurance levels of target destruction and neutralization are candidates for joint force coordination. Currently the great preponderance of such assets are air. Army and Navy missile units are the only other category of weapons with these effects. The first challenge of joint force fires coordination is asset classification, defining joint force fires in terms of operational potential without degrading component capabilities. In

a joint force, asset classification is always situational and mission dependent. The process matches capabilities and requirements.

Control and execution. A second challenge of joint force fires coordination is establishing a theater air ground system (TAGS). TAGS for the joint force must be more than just an air control system. TAGS should provide a means of visibility, interface, and control as needed for the entire spectrum of joint fires and interface with component organic fires. Currently, "the TAGS is not a formal system in itself but the actual sum of various component air-ground systems."[2] Dependent on situational variables, there are joint force assets that will be coordinated, controlled, and/or monitored.

All four services have TAGS systems, called the Marine Air Command and Control System (MACCS), Navy Tactical Air Control System (NTACS), Army Air-Ground System, and the Air Force Theater Air Control System (TACS). The importance of these systems is not hardware, but functional organization. The services routinely (although not without problems) interconnect their individual airspace control and air defense systems. The joint force is the new player. The joint force has both establishing and participating roles.

Deconfliction. Deconfliction is a useful, made up word. Deconfliction defines the imperatives of fires coordination, fratricide prevention, and efficiency of asset utilization. Fratricide deconfliction provides for the safe application of fires; mission deconfliction provides for the effective application of fires. Fratricide deconfliction is between the effects of fires and the location of friendly forces. Mission deconfliction involves target

engagement decisions, mission assignment, and asset allocation decisions across the level of a force, from sortie or individual firing unit to component level.

Deconfliction is based on procedural and positive control. Procedural controls facilitate cross boundary activities, both fire and maneuver. A commander exercises positive control within his allotted maneuver space. Time available and technical feasibility limit the utility of positive control.

In confederated battlespace, procedural deconfliction is sufficient. In integrated, battlespace, procedural control approaches obsolescence. The need for boundaries will be lessened as the clarity, timeliness, and accuracy of the common operational and tactical picture increases. The dynamics of deconfliction will reverse. Deconfliction will follow a trend from procedural to positive. The positive control measures of the future will be digital. In the future, not all targets, nor even most targets, will be engaged. The mission deconfliction measures of the future will be guidance and planning. Guidance will be digitized and mission deconfliction decisions, such as targeting and weaponeering, will be automated. The deconfliction solution must combine the quality assurance of joint force mission responsibility and battlespace awareness. Deconfliction is a joint force responsibility.

Apportionment. Apportionment is the singular fires coordination decision routinely made by the JFC. "According to joint doctrine, apportionment is a CINC prerogative. In practice, the JFACC has the key voice in recommending apportionment to the CINC. The service component commanders are sometimes consulted, but field commanders rarely are. The mechanism whereby apportionment options are staffed and presented to

the CINC and the way in which targets are designated became contentious issues during Desert Storm."[3] Apportionment is merely a means of conceptualizing effort. The sole utility of apportionment is as JFC's guidance.

Controversies surrounding apportionment relate to both method and utility. The two most common methods of apportionment are percentage and level of effort. Both methods of apportionment are rigid and prescriptive means of guidance. Percentage of effort is conceptually precise but rarely equates to actual effort, for it does not compute the complexities of weaponeering, target/force sufficiency, and variances in weapons systems characteristics. Description by level of effort (i.e., hi, medium, and low) is conceptually imprecise and by default, the better reflection of actual effort, but only relative to percentage calculations. Level of effort is also an inherently inaccurate means of providing fires guidance.

A third method of apportionment is strategy to task, a system that ties operating systems and actions to overarching objectives. This apportionment method is complicated by the difficulty of defining objectives. The most common method of objective description is attrition by percentage. Critical planning considerations of force and target sufficiency, force application, weather, or combat assessment are not taken into account. All systems of apportionment currently used are inherently attritionist and resource inefficient endeavors.

As a further complication, apportionment only pertains to airpower. In Joint Publications 3-0 only "Air Apportionment" is discussed.[4] In terms of fires assets, what belongs to surface components is organic, what belongs to the air component is joint.

The emergence of new deep weapons will bring new fuel to apportionment debates. The Tomahawk is getting more timely, ATACMS has a longer range, and attack aviation has new capabilities. The increase in capability and the cost of weapons systems will drive competition for control. Airpower is the only routinely apportioned category of asset.

Two questions need to be resolved: first, what assets should be apportioned, and second, how will the apportionment occur? The answer to both questions is the prerogative of the joint force and the mechanics are fires coordination decisions.

Seam management. "Boundaries, or 'seams', arise inside an organization because workload has to be divided."[5] Geography, time, and technology "are several traditional methods used to decide where to divide an organization and allocate the workload."[6]

A fires function at every level is coordination along seams. Seams are boundaries and areas of interface. While boundaries are easy to define, areas of interface and interaction are less obvious, particularly in a joint force conducting operations in the environments of land, air and sea. In the application of joint fires, undefined areas of interface and interaction are hazardous. Most cross boundary coordination at the tactical and the operational level is conducted laterally by adjacent units. However, in cases of conflict, coordination is the function of the common higher headquarters. Possible sources of component conflict are asset allocation decisions (such as interdiction versus close air support), support priorities (such as defining supported and supporting roles of components in relation to battlespace and tasking authority), and interpretation of doctrine (such as definitions of fire support coordination measures [FSCMs] or airspace control arrangements when an amphibious operating area is established). Coordination

along seams, defining and deconflicting areas of component interface, and interaction are joint force responsibilities.

Targeting. Targeting occurs at all levels of the joint force. Targeting for the joint force involves much more than macro level oversight. Operational targeting is concerned with targeting those functions that will have a decisive operational impact and targeting to defeat operational threats. Determining operationally decisive targets and operational threats is a joint force responsibility. "The organizational challenge for the JFC is to meld existing service component architecture into an effective joint targeting team for operational level targets without degrading their primary mission of targeting support to their respective components."[7] The integration of targeting perspectives and information assets is a joint force responsibility. Targeting responsibilities of the joint force include defining and producing joint target documents.

Targeting functions occur at joint forces throughout the joint military structure of the United States. During Desert Storm, Colonel John A. Warden III and the Air Staff planned a strategic offensive in the Pentagon basement. Such targeting initiatives are less instructive as vignettes of inappropriate meddling in combatant commander's warfighting business than as examples of untapped resources. There is a lack of functional integrating agencies across the vertical depth of the United States joint force structure. Fires coordination is one example.

Responsiveness and time sensitive targeting of operational targets. A challenge in joint force operations is time sensitive targeting--responding to operationally threatening or operationally decisive "pop-up" targets. Time sensitive targeting involves

integrating sensors and shooters in a process of target acquisition and attack decision. Time sensitive targeting is asset dependent. "The chief shortcoming of ATACMS in the Gulf was the dearth of deep eyes capable of spotting a lucrative target with sufficient precision and timeliness to justify expending a missile."[8] Challenges include system integration and target prioritization. Engagement decisions are easily complicated by competing component priorities and joint force priorities are easily overlooked by unintegrated component attack systems. Time sensitive target engagement is an organizational challenge. The joint force must play an integrative role in decisions of target priority, target acquisition, and attack asset allocation. The establishment of procedures and attack decisions are joint force fires coordination decisions.

Special Operations Forces (SOF) coordination. The SOF missions of direct action and combat search and rescue equate, respectively, to strike and support. SOF operations directly impact all components of the joint force and frequently require deconfliction and implementation of FSCMs. Not routinely related to the JFACC planned air effort, SOF aviation represents another independent air force just like the Marines and much like the Army's. During Desert Storm, Commander Central Command Air Forces (CENTAF) was the coordinator of combat rescue forces, while Special Operations Command Central Command (SOCCENT) was the commander. This organizational structure complicated airspace control and mission deconfliction procedures. "In many respects, this difficulty was in microcosm similar to the Air Force-Marine relationship."[9] Component capability integration, to include SOF, is a joint force responsibility.

Planning document production. Campaign plans should be supported by a concept of fires. Developing guidance, targeting priorities, and asset allocation priorities are insufficient. Fires related guidance must be documented. Guidance and apportionment should not be done by exception briefs.

Combat assessment (CA). An important function at all levels, at the joint force level CA is the indicator of how the joint effort is progressing. CA is much more than battle damage assessment (BDA) or number crunching. It is a fused analysis of the direction of the campaign. While BDA is, perhaps, the greatest limitation to effective targeting, CA is the greatest limitation to the integration of joint fires. An inherent problem is that there are more attack and strike assets than there are assets to conduct assessment. An example is attack aircraft versus reconnaissance aircraft. CA is an example of an area of intense resource competition that affects all components. Multiple agencies use disparate means to compile answers independently. Effective operations require a centrally managed compilation mechanism to fuse results and determine one answer.

An associated CA problem is the tendency to change rules of BDA. During Desert Storm, as the ground war approached, tanks became harder to kill, not because of enemy preventive measures or better passive defense, but because the friendly imposed rules changed.[10] BDA problems included different rules in different component sectors. "Capabilities of the ground component commander and the air component commander overlap. Both have deep intelligence collection assets and attack system capabilities, and the capabilities of the systems of one service complement the capabilities of the other."[11]

Combat assessment is a joint force responsibility. CA is a fused result in which fires coordination plays an important role.

Fire Support Coordination Measures (FSCM). FSCMs are procedural control measures that, unless centrally managed, impede, vice facilitate joint force operations. Controversies over the nature and coordination implications of the fire support coordination line (FSCL) are indicative of the failure of joint forces in this area. General McPeak in his 1994 testimony to the Roles and Mission Commission cited examples of complications caused by Army Forces (ARFOR) control over placement of the FSCL. One example was an FSCL drawn by XVIII Airborne Corps that curtailed efforts to interdict resupply lines. "As a result, land force commanders, acting in accordance with established joint doctrine, unilaterally placed boundaries which effectively contradicted the CINC's theater priorities."[12]

In the absence of a common higher headquarters agency capable of positive control, the FSCL is the single default procedural control method for component fires deconfliction. From a Marine and Navy perspective, the FSCL is permissive. In order to facilitate the employment of fires, the FSCL is normally drawn close to maneuvering forces. The Army concept of the FSCL is tied to their evolving deep battle doctrine, which mandates that the FSCL, though permissive, needs to be drawn deep enough to let corps commanders shape the deep battle. The Air Force views the FSCL as a boundary between the air component commander (ACC) and the ground component commander (GCC) that entails specific requirements for fires coordination. During Desert Storm the FSCL established by the GCC was used as a restrictive FSCM that in effect became the

boundary between the ACC and the GCC. The FSCL has mutated into a boundary no one owns. It is no longer a permissive FSCM used to facilitate the employment of air. Now it is simply a fratricide control measure.

Another example is the use of restrictive FSCMs for the deconfliction of SOF operations. The absence of a common coordinating headquarters drives the use of restrictive FSCMs, such as the restricted fire area (RFA) and the no fire area (NFA), to insure the safety of SOF operations. Sensible fires coordination implies that the use of permissive fire support coordination measures should be maximized and the use of restrictive fire support coordination measures minimized. Joint FSCM are uniformly restrictive. In joint warfighting, fire support coordination measures impact component fire support and joint fires. Definition and management of FSCMs are the responsibility of the joint force.

Coordination outside of the Joint Operations Area (JOA). In the event of simultaneous multiple contingencies, deconfliction of fires assets is the responsibility of the common joint force headquarters. Aircraft routinely cross multiple joint force operating areas. As fires increase in range and complexity, the existence of cross joint force boundary fires will occur. Requesting fires assets from outside of the joint force, deconflicting fires effects that cross joint force boundaries, and coordinating routing outside of the JOA are joint force responsibilities facilitated by a joint force fires coordination agency.

AGENCIES

> The issue was the weight of effort assigned to battlefield preparation and to which targets were hit. Thus, the argument centered on the CINC's judgment and on the JFACC's responsiveness. For Air Force officers, this criticism challenged the heart of their service's doctrine and threatened to constrain the JFACC's authority to wield the air weapon. The ad hoc solution to these differences was to move the location of the JTCB [joint targeting coordination board] meetings and have the deputy CINC, Lieutenant General Calvin Waller, USA, act as its single spokesman for ground force commanders. Waller was responsible for integration and priority ranking of the target nominations by ground force commanders. All service components had membership on the board. Waller created the 'DCINC' target list, a list separate from the master target list maintained by Horner for Shwarzkopf. The DCINC list contained targets of special interest to ARCENT and MARCENT.[13]

Joint force fires coordination functions are based on procedures imperfectly done in the contemporary joint force. The agencies that accomplish these functions are the result of the evolutionary ferment of the joint force over a decade and do not necessarily represent the best joint force agency to accomplish fires coordination functions. The agencies represent compromise solutions.

Functional components. Functional components serve as joint force coordination agencies but not as integrative agents. Component focus complicates the basic difficulty of joint fires coordination; tasks are easy to define, prioritizing them is harder. "One can readily see that the services all have the capabilities to engage enemy targets across the operational continuum. But these joint deep strike assets must be coordinated to accomplish the JFC's intent most effectively."[14] At the heart of the post war debate over the functional role of the JFACC was the best use of airpower. During Desert Storm, "the major criticism of the Army and Marine Corps concerned the lack of air effort in support

of ground operations in the overall theater campaign plan. Conversely, the major complaint of the Air Force senior leadership was that preparation for ground operations diverted assets from the strategic effort."[15] Joint force planning and execution requires expertise across the breadth of environmental perspectives. Otherwise, joint force synergism is at the mercy of service specific experts. Integration turns to confederation.

Joint Targeting Coordination Board (JTCB). The JTCB is a virtue made of necessity. The J3 is doctrinally assigned staff responsibility for the integration of fires. J3 responsibilities include disseminating general targeting guidance, establishing a JTCB, and planning, coordinating, and monitoring execution of joint air operations as directed by the JFC in cases where a JFACC is not designated.[16] Under the purview of the J3, the JTCB provides targeting oversight. Often headed by the deputy joint force commander, the JTCB is comprised of representatives of the JFC's staff and component representatives. The board conducts a daily review of the progress made in meeting campaign objectives and priorities.

The JTCB developed out of controversy and continues to elicit debate. During Desert Storm, Army Forces' (ARFOR) discontent with targeting efforts (i.e., Air Force disregard for ARFOR-nominated targets) were resolved when the JTCB stood up.[17] Because an underlying practical reason for establishing the JTCB was to allay component targeting concerns, assigning the deputy force commander as JTCB chair made sense (it also serves to illustrate the depth of component controversy during the war). However, this arrangement can work against staff integration by diminishing the authority of the J3. "In theory, the JTCB can provide a 'macro level view of the battlefield,' presumably not

available from the JFACC. In reality, its primary role is to reconcile conflicting component priorities."[18] If the purpose of the JTCB is integration of force maneuver and fires capabilities, then the J3 should be left to do the job supported by appropriate staff fires coordination experts. What has happened is that the JTCB and the JFACC have become the de facto fire planners for the modern joint force. The JFACC does most of the planning and the JTCB gives approval and provides a forum for component debate.

The root of this controversy is whether or not the JTCB can affect operational synchronization. One complaint is that "JTCB structure and authority is vague and does not provide JFCs with a readily available organizational framework to control deep strike operations."[19] At one end of the solution spectrum are recommendations that "the first step in reinforcing trust must be to eliminate the JTCB. The Joint Targeting Coordination Board is an oversight agency, designed to compensate for, rather than rectify, the lack of inter-service trust."[20] At the other end of the spectrum are arguments to increase the scope of JTCB functions. "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."[21] JTCB and JFACC functional debates are closely linked and fall into two categories. One category seeks to empower the JFACC (often at the expense of the JTCB) and the other category seeks to empower the JTCB. All of these arguments are symptomatic of an underlying illness--

JTCB and JFACC coordination roles are compromise solutions to accomplish what are more appropriately joint force headquarters functions.

Joint Force Fires Coordinator (JFFC). In the past, the diverse operational fires planning and execution functions of the joint force have not been centrally coordinated by the joint force staff. Some joint forces currently utilize a joint force fires coordinator (JFFC). The staff function of this officer is not well defined or well supported by doctrine. Often relegated to serve as a JTCB facilitator, the position only marginally contributes to joint fires coordination. "While the JFFC is called upon to accomplish many tasks, there is seldom enough manpower available to do them. At Unified Endeavor 96.2 [a USACOM joint task force training exercise], for example, the JFFC had less than a handful of officers on the staff to accomplish the myriad of tasks required. It is as if the JFFC is an afterthought. Still, most of the tasks get done--the JFACC staff does them, with the JFFC adding little or no value to the process."[22] As currently used, the JFFC is analogous to the old MEF supporting arms special staff (SASS). "The SASS was nothing more than a small body of advisors which lacked the depth, equipment, and mission of helping the commander actually fight the MEF."[23]

There is a steep learning curve for any perspective JFFC. Preparation time needed to learn the job and sometimes to invent the job does not exist for an ad hoc agency. Because the warfighting perspective of the joint force is extended in time (days and weeks), exercises may not last long enough for a JFFC to prove useful. Time is spent trying to figure out who to talk to and what to know. With no established procedures or training, the personnel involved in the JFFC just try to cope with the immediate situation.

In the components there are experts, personnel who know what to do and have established procedures. To this point the JFFC has always come up short in the contest.

Joint Fires Element (JFE). Emergent in doctrine is a joint force staff fires element, the JFE. "The JFE is an optional staff element that provides recommendations to the J3 to accomplish fires planning and synchronization."[24] JFE is a new moniker for the JFFC. The nomenclature of this joint force fires agent is a result of a compromise solution at the December 1996 Army-Air Force Warfighter Conference to solve contention over the existence of the JFFC concept.[25] The Air Force perspective was that the JFFC duplicated actions already accomplished by the JFACC and JTCB. The Army perspective was that the JFFC filled a needed joint warfighting requirement. The compromise was to call the entity an element vice a coordinator so as not to imply any command function. Both sides felt they gave too much in the bargaining. The JFE is a watered down version of the JFFC concept in that it is merely a staff advisory agent vice a coordinating agency.

Non-doctrinal fire support coordination measures (FSCM). The deep battle synchronization line (DBSL) currently used in Korea, the reconnaissance interdiction prioritization line (RIPL) used in the past in Europe, the Kill Boxes of Desert Storm, and other non-doctrinal fire support coordination measures are examples of compromise solutions. Non-doctrinal FSCMs are attempts to procedurally compensate for the lack of a joint force coordination capability.

The Korean deep battle solution is frequently held up as a viable alternative for joint force fires controversy. The DBSL (the Korean solution) was tested in Desert Storm. "...The 'Horner Line' was established. This line was 30 nautical miles parallel to and in

front of the FSCL."[26] Just as Army use of the FSCL restricted air attacks of targets the Horner line, on occasion, restricted the use of Army deep attack assets. The problem is that the Horner line (DBSL) and the FSCL represent restrictive measures. In a joint force environment, the use of restrictive fires measures should be minimized, not codified.

The use of non-doctrinal FSCMs is coordination by prescription. Non-doctrinal FSCMs do not solve underlying problems that are based in doctrine or component competition. They only offer symptomatic treatment.

THE JOINT FORCE SOLUTION

The need for a joint force fires coordination agency is most deeply manifested in the warfighting nature of the joint force. The lowest level at which responsibility for planning and execution functions of maneuver and fires are located in the same person is at the company. At every echelon between the maneuver company and the joint force, there is a fire support coordinator. This means that only at the least complex level of combined arms warfighting, the maneuver company, and at the most complex level of joint warfighting, the joint force, do we find responsibilities for maneuver and fires, integration and synchronization, residing in the same person.

The source of strength for any joint force is the service components. Therefore, what the JFC does for them is prioritize, deconflict, and provide fires through agencies in support of the main effort. In the areas of fires, the joint force headquarters needs a top down planner, a long range planner, and a supervisor to deal with the intricacies of force application. A warfighting joint force headquarters must also have the capability to react

to fleeting opportunities for decision or threats to the force. The JFC and the J3 are not fires experts and do not need to be. The JFC requires a joint force fires coordinator and a joint force fires coordination agency in order to integrate and synchronize the fires related activities of components, joint force fires related agencies, and the joint force staff. The JFC and the J3 require joint fires expertise at the joint force headquarters.

ALTERNATIVE PERSPECTIVES

Several counter arguments to the establishment of additional joint force fires related agencies exist. One is that the system is not broken so there is no need to fix it. The success of the JFACC/JTCB arrangement in Desert Storm seemingly supports this argument. In a search for responsiveness and flexibility, however, Desert Storm created a single component based fires coordination system that is unresponsive, not only to other component needs but potentially to the needs of the joint force. This reasoning also applies to the argument that the JFLCC should be in overall charge of fires coordination for the joint force; i.e., the JFLCC or DJFLCC should be the joint force fires coordinator.

Another argument calls for empowering the JFACC, as an established joint force headquarters, to conduct all joint force fires functions. Proponents declare that the joint air operations center (JAOC) is flexible enough to insure component integration and synchronization and provides expertise in the theater wide application of airpower. The inconsistency is that the JFACC is not routinely a joint headquarters. The JFACC is a service component headquarters (not always Air Force--sometimes Navy or even Marine) that is augmented by doctrinally described liaisons, (e.g., the battlefield coordination

element, the special operations liaison element, and the naval amphibious liaison element). Nor should the JFACC necessarily be joint. Component level perspectives are an important aspect in developing joint force potential. Full integration remains the purview of the one truly joint force headquarters in a joint force, the composited staff of the joint force commander.

One perspective is that establishing fires coordination as an area of functional concern for the joint force headquarters merely represents a transition of small operations (sub-component) mentality to big operations (joint force) mentality. The joint force has never transitioned to big operations mentality. Because an integrated warfighting construct has not been defined for the joint force, the confederated perspective of the components is a far as the joint force has gone. The appropriate mentality for the joint force is big operations fires coordination.

Technological advances in multiple aspects of force application have resulted in competing impressions that the basis of joint force decision lies in either, the realm of fires and airpower, or in the realm of maneuver and groundpower. The existence of such logic is precisely why fires coordination is needed in the joint force. Fires coordination is also maneuver coordination. Force employment is about using the right tool at the right time. Maneuver and fires represent the decisive operational tools of the joint force.

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CHAPTER VII

CONCLUSIONS AND RECOMMENDATIONS

The contemporary fires coordination controversy defines a joint force problem--component competition. Deep rooted service perspectives of operationally decisive warfighting are the basis of friction and conflict. Component focus leads to an impasse in the integration, synchronization, and coordination of joint force fires. The only place to break this impasse is at the joint force level.

CONCLUSIONS

The nature of the joint force is warfighting. The joint force fight is one fight. The challenge is to make it a team fight. Air and ground centered perspectives drive for result from different ends of the force employment spectrum. One seeks decision in the primacy of fires, the other seeks decision by the primacy of maneuver. For practical effect each seeks to combine with the other for decisive force employment. Controversy and friction arise because there is a difference. The utility of joint force fires coordination is to resolve that difference and integrate force capabilities.

Component warfighting doctrine, procedures, and future visions are in the surge ahead of the joint force wave. Air and ground visionaries are the joint force heretics. There is something the airman and the soldier are both missing. The appropriate role of the joint force headquarters is superior to the components and it is a warfighting role. Both air and

ground power are based in fires and maneuver. No single warfighting construct is potentially more capable than the integrated joint construct. Fires coordination is part of that construct.

There are joint force fires coordination functions appropriate to the joint force headquarters. There is a need for fires coordination at all levels of the joint force. At the tactical level, the criticality of fires coordination results from the limitation of fires and maneuver. Fires at lower levels generally must be combined with maneuver to achieve decisive impact. At higher levels of warfighting, the criticality of fires coordination is based on the capabilities of fires and maneuver, each of which has singular potential for decision. Joint force fires coordination involves the integration of joint force assets and component capabilities across the full spectrum of air, land, sea, and space forces and includes planning and execution functions.

There is a need for a functionally organized fires coordination agency at the joint force headquarters. The lack of a joint force fires coordination agency complicates the synchronization and integration of joint fires and joint maneuver. The complications of joint warfighting can be ameliorated with the establishment of an integrative fires agency.

The JFFC concept should be expanded to fill a primary joint force warfighting role. In any joint force employment, the fires coordinator should be part of an operational triad of maneuver, fires, and intelligence. The JFFC should not be diminished to an advisory or supporting role. The JFE concept is a step back. Fires coordination is a joint force function. One of the most important tools a commander has is the warfighting staff. In

the area of fires coordination the JFC does not have support. Joint staffs do not need to be expanded; the warfighting role needs to be defined.

RECOMMENDATIONS: HOW DO WE GET THERE? - THE WAY AHEAD

The issues besetting fires coordination at the joint force are a microcosm of the issues besetting the services. Stagnation is not possible. Because of technological advances, expanding capabilities, and political and budgetary realities, the nature of the joint force is changing. Component intransigence may delay the primacy of the joint force headquarters, but it will not prevent it. There is a joint force battle and only slowly is that being appreciated; only slowly are the staff agencies and expertise being developed to support it. There is a general consensus that some type of joint force level fires agency is needed, but the devil is in the details. The following recommendations relate to the details of implementing a fires coordination agency for the joint force.

1. The name of the agency needs to include the term coordination. The requirement is for a primary warfighting function that must go beyond the limited duties associated with contemporary concepts of the JFFC and the JFE. The agency needs a name that will convey appropriate warfighting prestige status. The function is more than staff advisor or facilitator; it is a coordination agency that carries the onus of joint force responsibility and authority.

2. The agency must be reflective of the capabilities of the joint force and needs to be manned with sufficient depth of expertise to reflect the broad capabilities of air, land, sea, and space forces. Each member must be capable of rising above the specifics of their

expertise and training. In corps operations, the fire support coordinator is the artillery brigade commander. A joint force fires coordinator must represent the composite fires of the joint force. He may likely be an airman. The ultimate utility of the agency will not be based on the additive accumulation of service perspectives but on the synergistic development of a uniquely joint perspective.

3. The mechanics, functions and procedures of the agency need to be defined jointly. To this point the most contentious debate over joint force fires coordination has been over the need for the agency. Serious participation in defining the functions has not included the Air Force, currently the principal provider of joint fires assets. Until airmen are involved in establishing the structure and procedures of the agency, its utility will be limited and its effectiveness never fairly evaluated.

4. Establishing the agency is more important than the specifics of the agency. Ultimate utility will only come from use. Establishing and utilizing the concept will result in refinements. It is difficult to definitively establish the specific functions of the element without practice and feedback.

5. Based on the permutations of joint force integrated warfighting operations, there is a requirement for an overarching fires manual. Publication of Joint Pub 3-09 will not suffice. Development of such a fires publication is not planned and is highly improbable. Fires controversies get solved everyday, but they need to be solved institutionally. Joint doctrine is the only place this can occur.

The ongoing debates over joint force fires coordination are not merely service parochialism. They are valid warfighting concerns from component perspectives. There will not be a joint answer to the joint fires coordination challenges facing the contemporary joint force commander unless a joint force headquarters level fires coordination agency is established and utilized. Anything short is another compromise, not a joint force solution.

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