

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

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1. REPORT DATE (DD-MM-YYYY) 13-02-2006		2. REPORT TYPE FINAL		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE Defining Operational Fires				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Robert Novotny, Major, USAF Paper Advisor: Patrick Sweeney				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Joint Military Operations Department Naval War College 686 Cushing Road Newport, RI 02841-1207				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT Distribution Statement A: Approved for public release; Distribution is unlimited.					
13. SUPPLEMENTARY NOTES A paper submitted to the faculty of the NWC in partial satisfaction of the requirements of the JMO Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.					
14. ABSTRACT Operational fires have proven to be a major contributor to the Joint Force Commander's ability to execute their war plan. However, published Joint definitions, and inconsistent Service definitions, have increased confusion for modern military planners. The collective Services' inability to codify the true aspects of operational fires into an appropriate Joint definition is leading to the obscuration of the true nature of operational fires. This paper summarizes the ongoing debate regarding operational fires while presenting an encompassing definition for consideration and then inclusion in the Joint Publications.					
15. SUBJECT TERMS Operational Fires, Operational Art, Planning, Doctrine					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT UNCLASSIFIED	b. ABSTRACT UNCLASSIFIED	c. THIS PAGE UNCLASSIFIED			Chairman, JMO Dept
				22	19b. TELEPHONE NUMBER (include area code) 401-841-3556

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Defining Operational Fires

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A paper submitted to the faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

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.

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13 February 2006

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ABSTRACT

Operational fires have proven to be a major contributor to the Joint Force Commander's ability to execute their war plan. However, published Joint definitions, and inconsistent Service definitions, have increased confusion for modern military planners. The collective Services' inability to codify the true aspects of operational fires into an appropriate Joint definition is leading to the obscuration of the true nature of operational fires. This paper summarizes the ongoing debate regarding operational fires while presenting an encompassing definition for consideration and then inclusion in the Joint Publications.

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INTRODUCTION

Shortly after nightfall on 5 June 1944, a group of Royal Air Force (RAF) Avro Lancaster bombers began flight operations over the English Channel.¹ Although these missions were launched before the planned full scale Allied invasion of the Normandy coast, their assignment was fundamentally important. The Lancaster bombers dispensed hundreds of pounds of finely cut aluminum strips known as chaff which blossomed in the wind currents and was easily detected by German coastal radar sites. Coupled with the bombers were several Allied ships steaming northeasterly in the English Channel away from the true Normandy landing zones. The sixteen ships, as well as their high-flying tethered balloons, were also detected by German early warning radars.² The German radar operators communicated their findings through their chains of command reporting the suspected movement of large Allied forces. Confirming their previous suspicions, and believing the Allied deception, German operational commanders reported that an attack might be underway in the vicinity of Pas-de-Calais.³

Four months prior to the Lancaster chaff missions, and all through the D-Day operation, other Allied bombers were used in a more conventional and lethal manner. Beginning on 20 February 1944, day and night bombing raids relentlessly pummeled the Luftwaffe throughout France and Germany.⁴ Boeing B-17 Flying Fortress heavy bombers of the United States' Eighth and Fifteenth Air Forces, launched missions from England and Italy respectively to systematically destroy the bulk of German aircraft manufacturing in

¹ Charles Messenger, *The D-Day Atlas: Anatomy of the Normandy Campaign* (New York: Thames & Hudson Inc., 2004), 60.

² Ibid.

³ Stephen E. Ambrose, *D-Day: The Climactic Battle of World War II* (New York: Simon & Schuster, 1994), 84.

⁴ Ibid., 35.

southern Germany. Allied Expeditionary Air Force (AEAF) bombers simultaneously focused on critical Axis airfields. The objective of those crippling attacks on the Luftwaffe, later known as “Big Week,” was to directly strike at one of the enemy’s operational Center of Gravities (COG), the German air force, and ensure enemy aircraft played a limited role in the ensuing liberation of France.⁵ The Luftwaffe was never able to recover from “Big Week.”

These two examples from Operation OVERLORD exemplify the use of operational fires, both lethal and non-lethal, to focus effort against an enemy’s operational COG while also shaping the battlefield for future actions. Operational fires have historically been crucial to the outcome of warfare. Recently though, it is becoming apparent in the Joint Publication series that planners are receiving a mixed message. Multiple definitions and a lack of clear terminology are convoluting the issue surrounding operational fires. Service parochialism further compounds the problem by using Service-specific language to define a joint activity. This is not to say that operational planners fail to use operational fires, rather the lack of a commonly accepted Joint definition of operational fires is leading to increased misunderstanding. As Services and individuals use new terms and unique planning language, operational planners risk losing a firm grasp of the nature and capabilities of operational fires.

This paper will attempt to alleviate the confusion by examining and subjectively grading the current Joint definition and the various Service publications regarding operational fires or Service similar functions. This paper will outline two critical prerequisites for operational fires; first, operational fires must be targeted against an *enemy’s operational COG*, second, operational fires must intend to accomplish *operational objectives*. Additionally, it is important to divorce geography from any definitions. The

⁵ Ibid.

location of operational fires can occur near friendly forces or far from them. The notion of operational fires only conducted in the “deep area” is incorrect. Three historical case studies from D-Day, the Falklands conflict, and Operation DESERT STORM are used as supporting evidence. Finally, this paper will propose a new definition of operational fires that will attempt to codify the nature and capabilities that operational planners from all Services may better utilize.

DEFINING THE DEFINITIONS

...but so as not to be misunderstood, we shall try to clarify the common usage of these terms, which in most cases we like to follow.

Clausewitz, *On War*

One of the most controversial aspects of operational fires is neither the method of employment or the command and control of their application, but rather an accepted Joint definition itself. The debate over an acceptable definition has its roots back in the AirLand Battle doctrine period of the U.S. Army. In 1989, one Army officer wrote that “there is not a clear definition of operational fires.”⁶ He further pointed out that none of the current Army capstone or supporting manuals attempted to clearly define this operational function, as a result, planners were left with limited answers.⁷ In recent years however, Army manuals and doctrinal publications are taking great strides to further the understanding of operational fires. The Marine Corps is dedicating several sections in their publications to the same discussion of the matter although Marines prefer the term shaping fires. While there are minor problems with both Army and Marine definitions, the true disconnect lies in the lack of discussion of operational fires in both Navy and Air Force doctrine documents.

⁶ Ralph G. Reece, “Operational Fires” (Research Report, U.S. Air War College, 1989), 58.

⁷ Ibid.

Joint: In depth review of the Joint Pub series shows that there is no definition for operational fires as a specific function for the Joint Force Commander. Moderate discussion in both the JP 3-0 pub and JP 3-31 pub discuss fires as a whole concept, but no definition articulates the true benefits of operational fires. *JP 3-0 Doctrine for Joint Operations*, states that:

While some fires will support operational and tactical movement and maneuver by air, land, maritime, amphibious, and special operations forces, other fires are independent of maneuver and orient on achieving specific operational and strategic effects that support the JFC's objectives. Fires are the effects of lethal or non-lethal weapons.⁸

This current definition attempts to explain some capabilities that operational fires present, but it fails to convey the shaping nature of the fires. Operational fires are also presented initially as being connected to operational or tactical maneuver by forces. Although operational fires may certainly support or cover the movement of forces, major operational fires in history have stood alone as fundamentally separate functions.

Assigning a subjective grade against all Joint and Service doctrinal discussion of operational fires will help delineate which definitions are better than others. The perfect definition of operational fires should include discussion of how operational fires are directed at some portion of the enemy's operational COG. By doing so, those fires should intend to accomplish operational-level effects. The definition should not constrain operational fires by geography, and any discussion of the synchronization of both lethal and non-lethal fires is highly desired. Based on these grading criteria, the Joint definition of operational fires receives a C (average).

⁸ Joint Chiefs of Staff, Doctrine for Joint Operations, Joint Pub 3-0 (Washington, DC: 10 September 2001), III-27.

Army: The Army's philosophy of operational fires, or shaping operations in Army doctrine, is found in the Field Manual series of publications. FM 3-0 *Operations* does a fine job of describing the use of shaping operations to include lethal and non-lethal activities. FM 3-0 further states that shaping operations support decisive operations and may occur at any time in relation to the decisive operation but are normally subordinate in the campaign plan.⁹ Shaping operations may be economy force actions if sufficient forces are not available to conduct simultaneous decisive and shaping operations.¹⁰

Unfortunately, FM 3-0 restricts operational fires to the deep area and almost always links operational fires to supporting operational maneuver. "The deep area is an area forward of the close area that commanders use to shape enemy forces."¹¹ Although this statement is accurate, the opinion that shaping fires should only be used in the deep area is too restrictive. Operational fires will have operational effects by targeting key portions of the enemy's center of gravity, regardless of its location on the battlefield. The Army doctrine is adequate and mostly encompassing but the lack of joint terminology is also confusing. Additionally, the restriction of operational fires to only deep areas and very limited discussion on the types of non-lethal fires detracts from the definition. The Army's definition of operational fires is a B (above-average).

Marines: The Marine doctrinal perspective of shaping fires focuses on the true power of operational fires: the ability to set up the enemy for a knock out punch.¹² Marine Corps Doctrinal Publication 1, *Warfighting*, specifically addresses the need to determine the critical

⁹ U.S. Army, Operations, Field Manual 3-0 (Washington, DC: 14 June 2001), 4-23.

¹⁰ Ibid.

¹¹ Ibid., 4-26.

¹² Marine doctrinal publications use the term "shaping fires" vice operational fires.

enemy vulnerabilities and then apply power to shape conditions for victory.¹³ The doctrine also attempts to identify multiple types of shaping fires to include psychological operations, electronic warfare and direct attack, i.e. non-lethal operational fires.¹⁴ Most importantly, the Marine understanding of shaping fires is illuminated in their discussion of how it is critical to envision the enemy status, disposition, force strength and capabilities at the conclusion of shaping operations. They intend to shape the enemy to the point that the “result is a matter of course.”¹⁵ The Marine definition articulates many of the facets of operational fires, to include the focus on enemy vulnerabilities, types of fires and objectives sought at the conclusion of those fires. However, by using dissimilar terminology such as shaping fires, the Marine doctrine contributes to more vocabulary debates and potential confusion at the planning staff. Only because of the use of Service parochial terms does this explanation fall short. The Marine definition scores an (A-) good.

Air Force: The Air Force does not use the term operational fires or shaping fires in either of the two main doctrinal publications. Instead the Air Force concentrates on functions and effects according to Air Force Doctrine Document (AFDD) 2-1, *Air Warfare*.¹⁶ “Effects are operational outcomes that functions are intended produce,” for example the function of Counterland attacks should produce the effect of an isolated enemy on the battlefield.¹⁷ Further discussion of direct and indirect effects closely resembles the idea of operational and/or previously discussed shaping fires. While the terms are never used verbatim, the language in AFDD 2-1 nearly encompasses the ideas previously discussed. The Air Force

¹³ U.S. Marine Corps, Warfighting, Marine Corps Doctrinal Publication 1, (Washington, DC: 20 June 1997), 82.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ U.S. Air Force, Headquarters Air Force Doctrine Center, Air Warfare, Air Force Doctrine Document 2-1 (Washington, DC: 22 January 2000), 7.

¹⁷ Ibid.

doctrine correctly addresses the need to analyze the enemy vulnerabilities and attack those “key target sets” without needlessly engaging in attrition warfare.¹⁸

The Air Force’s core competency most closely related to operational fires is known as Air Interdiction (AI). AI sorties destroy, neutralize, disrupt or delay the enemy’s military potential before it can be brought against friendly forces. AI sorties occur in the deep area of the battlefield, at such distances from friendly forces that detailed coordination of each mission with friendly forces may not be required.¹⁹ In doctrine document 2-1.3 *Counterland*, air interdiction sorties further expand to include both lethal and non-lethal systems.²⁰

The Air Force definition of AI relies heavily on the proximity of the target of interest to the location of friendly forces. The Fire Support Coordination Lines (FSCL) normally differentiates AI sorties from Close Air Support (CAS) missions regardless of the intended effects of the attack. “The Air Force considers operational fires as deep operations, or operational fires beyond the FSCL which include air interdiction, strategic attack, suppression of enemy air defenses, and offensive counter air missions.”²¹ While clearly the coordination with friendly forces to ensure synchronization of effort and to minimize the potential of fratricide is paramount, operational fires should not be constrained by distances from FSCL.

To further compound the issue, Air Force leaders recognized the shortcomings of the AI definition and attempted to clarify the impact that aerial delivered fires can have on the outcome of the campaign. Lt Gen David Deptula, one of the authors of the Desert Storm air

¹⁸ Ibid.

¹⁹ U.S. Air Force, Headquarters Air Force Doctrine Center. Air Force Glossary: Air Force Doctrine Document 1-2 (Washington, DC: 6 September 2005), 22.

²⁰ _____, Counterland: Air Force Doctrine Document 2-1.3, (Washington, DC: 27 August 1999), 23.

²¹ Robert J. D’Amico, “Joint Fires Coordination: Service Competencies and Boundary Challenges,” *Joint Forces Quarterly* (Spring 1999): 71.

campaign, proposed a new definition more in line with operational fires. The new term Direct Attack “consists of air operations conducted to render the adversary’s military capabilities ineffective outside an established land area of operations (AO) or when surface forces operate in a supporting role to air forces.”²²

While all of the Air Force definitions work well for airmen, the insertion of new language such as functions and effects do not add to the Joint understanding of operational fires. Additionally, direct attack and air interdiction missions should be included as a type of operational fire instead of a replacement for operational fires. Because the Air Force is generating new terms for existing operational functions, and because geographic limitations are placed on operational fires restricting them to the deep area, the grade for overall contribution to Joint clarity is a C- (below average).

Navy: The Navy’s doctrinal writings regarding operational fires are *possibly* summarized in their definition of Naval Surface Fire Support (NSFS).²³ Naval Doctrine Publication 1, written over 12 years ago, states that NSFS is “responsive to the task force commander, augmenting air-delivered strike munitions in the destruction of enemy emplacements, systems, and personnel.”²⁴ Initially NSFS sounds akin to operational fires; however, in the glossary section of NDP 1, the published definition restricts NSFS to supporting “a unit or units on land.”²⁵ In other words, NSFS may only be used as tactical fires supporting engaged units vice as operationally or strategically stand alone events.

²² David A. Deptula, Gary L. Crowder and George L. Stamper, Jr., “Direct Attack: Enhancing Counterland Doctrine and Joint Air-Ground,” *Air & Space Power Journal* (Winter 2003): 6.

²³ NSFS formerly Naval Gunfire Support (NGS)

²⁴ U.S. Navy. Naval Warfare: Naval Doctrinal Publication 1, (Washington, DC: 28 March 1994), 67.

²⁵ *Ibid.*, 74.

Course material for the Joint Military Operations syllabus at the Naval War College uses a definition of operational fires from Professor Milan Vego, operational art theorist.

Vego proposes that operational fires are:

Applied to achieve a decisive impact on the outcome of a campaign or major operation; they are normally conducted beyond the boundaries of the area of operations in which the major operation is conducted; lethal and non-lethal...are differentiated²⁶

As previously discussed, operational fires should not be constrained to areas only outside of the principle area of operations as Vego states. Additionally, the discussion of the ability to attack the enemy's COG thereby forcing the enemy into our own design is completely omitted. Naval doctrine fails to address any operational firepower capability even though multiple systems such as naval air power, sea-launched missiles and special operations forces are highly capable delivery platforms. Due to the complete lack of discussions on the subject matter, Naval doctrine receives a D (below average).

OPERATIONAL FIRES–COGs–EFFECTS

Successful analysis of the enemy's operational center of gravity, thereby outlining targets for operational fires, is a top priority for military planners. Directly targeting the enemy's operational COG may be possible early during the campaign, however, it is more likely that critical capabilities (CC) of the enemy will have to be defeated first. CC are those crucial enablers for the enemy's COG to function and therefore, they are essential factors if the enemy intends to achieve their objectives. Critical requirements (CR) are made of the enemy's critical strengths and weaknesses. Critical vulnerabilities (CV) can be either the enemy's critical strengths and/or weaknesses but what makes them a CV is that by their

²⁶ Milan N. Vego, *Operational Warfare* (Newport, RI: Naval War College, 2000), 641.

nature, they are open to attack by friendly forces, normally in the form of operational fires. Mathematically, which is inherently a gross oversimplification, $COG=CC+CR+CV$.

Further discussion of COG analysis or determination is well beyond the scope of this paper; however the use of applying operational fires against an enemy's operational COG to achieve the desired effects is clear in one historical example. This principle was evident in Royal Air Force's (RAF) use of bombers during the Falklands conflict in the spring of 1982. Prior to the RAF involvement in May 1982, British planners identified Argentinean soldiers on the Falkland Islands as their prime operational focus (COG). Supporting the Argentinean soldiers were naval forces in the surrounding waters and air assets located both on the mainland of Argentina and South Falkland Island at Port Stanley. British planners determined that the enemy air and naval forces should first be engaged prior to an amphibious landing thereby achieving the maximum attrition of enemy forces and minimizing enemy opposition to the eventual British landing.²⁷ As a result, operational fires were planned to destroy the Port Stanley airfield negating close proximity shore-based enemy aircraft which could intervene with British naval and land operations.

The opening shots of the military operation occurred on 1 May 1982 with a series of Vulcan bomber attacks on the Port Stanley airport. Codenamed *Black Buck*, RAF BAe Vulcans flew from Ascension Island dropping fifty-five 1,000 pound bombs with the intention of disabling the entire airport.²⁸ The results, however, were less than impressive. Of the fifty-five bombs dropped during five Vulcan attacks on the airfield, only one struck its target causing limited damage. No Argentine aircraft were lost due to the raids and minimal

²⁷ Lawrence Freedman, *Britain and Falklands War* (Oxford: Basil Blackwell, 1988), 50-51.

²⁸ Andrew M. Pullan, "The British Infantry in the Falklands Conflict: Lessons of the Light Infantry in 1982 and their Relevance to the British Army at the Turn of the Century," (Research Report, U.S. Army Command and General Staff College, 1999), 21; Bruce W. Watson, ed. and Peter M. Dunn, ed., *Military Lessons of the Falkland Islands War: Views from the United States* (Boulder, CO: Westview Press, Inc., 1984), 43.

damage was done to the airfield infrastructure.²⁹ The attack was successful in preventing further use by high performance Argentine aircraft, but lighter aircraft and transports were still able to operate from the field.³⁰

Despite the minimal damage done to the Port Stanley airfield, Argentine leaders decided to hold their more capable, high-performance fighters on the Argentine mainland for fear of strikes by Ascension based RAF Vulcans. Argentine leaders also made the decision to disperse their remaining aircraft from Stanley to smaller, more remote airstrips in the Falklands. Argentine close-air-support aircraft such as the FMA IA-58 Pucará were moved throughout the area which increased the maintenance and logistical toll on the air force. Fuel and ordnance shortages at remote sites, combined with poor communications in the area, led to incoherent and ineffective air support campaign once the British began their invasion.³¹

The operational fires delivered in the form of long-distance Vulcan bombers were a tactical failure since the airport remained in service, but operationally successful because the Argentinean Air Force stopped using Port Stanley as a base for air operations. Regardless of the damage caused at the Stanley airfield, the Argentine local airpower was rendered ineffective by the air raids due to decisions made by enemy commanders. Even though the RAF achieved their *intended* results by accident, the Vulcan bomber attacks on Port Stanley remain an example of operational fires. RAF raids on the Falklands helped shape conditions for a successful amphibious landing on the islands.

²⁹ Watson and Dunn, 43.

³⁰ Freedman, 51.

³¹ John E. Marr, "War in the Falklands: Perspectives on British Strategy and Use of Air Power," (Research Report, U.S. Air War College, 1988), 45.

TACTICAL FIRES–COGs-EFFECTS

Not to be outdone by the RAF, the British Royal Navy scored an incredible victory one day after the Vulcan bombers raids, which would have significant effects on the outcome of the conflict. While RAF Harrier pilots scoured the waters surrounding the islands in search of the Argentine aircraft carrier *25 de Mayo*, the British nuclear submarine HMS *Conqueror* stumbled upon a different Argentinean warship.³² The cruiser *General Belgrano*, escorted by two smaller destroyers, was engaged and torpedoed by the *Conqueror* on 2 May 1982.³³ Previously the American *Phoenix* (which saw action at Pearl Harbor on 7 December 1941), the *General Belgrano* sank with the loss of 360 men. This naval engagement was the largest cost of human life in the entire Falklands conflict.³⁴

While the destruction of the Argentine warship outside the exclusion zone created an international firestorm for British government officials, the impact of the loss of the *General Belgrano* was operationally significant. The continued threat of British nuclear submarines patrolling the waters surrounding the Falklands created a significant military problem for Argentinean naval leaders. To mitigate the risk of British submarine engagements, Argentinean naval surface forces were ordered to remain within twelve miles of the Argentine mainland, effectively rendering the Argentine navy useless for the remainder of the conflict.³⁵

The *HMS Conqueror* was on a patrol searching for the aircraft carrier *25 de Mayo* when it encountered and sank the *General Belgrano*. The sinking of the *Belgrano* was not an operational fire; rather it was a tactical fire with unintended and prosperous operational

³² Freedman, 51.

³³ Pullan, 21.

³⁴ Freedman, 52.

³⁵ Watson and Dunn, 9.

effects. It is impossible to assume that the loss of one vessel would have forced the Argentinean leaders to pull back the entire navy to within the safety of their national waters, thereby stranding Argentinean armed forces on the Falklands. However, the British Royal Navy achieved a major coup during the opening shots of the Falklands conflict. The *HMS Conqueror* was luckily able to achieve an operational-level effect through a tactical fire.

SYNCHRONIZED LETHAL AND NON-LETHAL OPERATIONAL FIRES

As Joint Pub 3-0 states, fires can be the effects of lethal and non-lethal actions against the enemy. When the two different types of operational fires are coordinated however, the effects are multiplied. The devastating effects of complimentary operational fires were not only evident during the first days of the Normandy invasion but also during the early hours of the ground campaign in Operation Desert Storm. Evicting one of the largest mechanized armies from Kuwait was an immense task with evidence pointing towards pre-war casualty predictions exceeding several thousand lives lost.³⁶ However, due the shaping actions by all Services, coalition forces destroyed nearly four thousand tanks and captured ninety thousand prisoners in less than four days, all with less than three hundred U.S. lives lost.³⁷

Center of gravity analysis conducted by military planners determined that Iraq maintained three major operational COGs. First, Iraq relied heavily on its leadership elements and their ability to exert command and control. Second, were Iraq's chemical, biological and nuclear programs. The third COG was the Republican Guard.³⁸ As a result,

³⁶ Michael E. O'Hanlon, "Counting Casualties: How Many People Would Die in an Iraqi War?" The Brookings Institution. 25 September 2002. <http://www.brook.edu/views/op-ed/ohanlon/20020925.htm>. Accessed 1 February 2006.

³⁷ Robert M. Citino, *Blitzkrieg to Desert Storm: The Evolution of Operational Warfare* (Lawrence, KS: University Press of Kansas, 2004), 288.

³⁸ Gulf War Air Power Survey (GWAPS), Volume 1, *Planning and Command and Control*, 2.

coalition lethal operational fires took the form of a now famous 40-day aerial bombardment campaign prior to the commencement of offensive ground operations. The massive air campaign targeted nearly every source of Iraqi military power with particular emphasis on communication nets, logistic and communication lines to fielded Iraqi forces in Kuwait and finally those Iraqi military units in Kuwait.³⁹ More specifically, the Gulf War air campaign was organized into four distinct phases: Phase I – Strategic Air Campaign, Phase II – Kuwait Theater of Operations Air Supremacy, Phase IIIA – Battlefield Preparation-Republican Guard, Phase IIIB – Battlefield Preparation-Kuwait, and Phase IV – Ground Attack.⁴⁰ While Phase I was an attempt to disrupt the leadership structure of the Saddam Hussein regime, General Charles Horner, Joint Forces Air Component Commander (JFACC) addressed Phase III as the battlefield shaping portion of the campaign.⁴¹

By 23 February 1991, battle damage assessments determined that the Gulf War air campaign destroyed 1,688 tanks, 1,452 artillery pieces, 929 armored personnel carriers and nearly all of the Iraqi main divisions were below fifty percent effectiveness.⁴² Intelligence officials reported both the Iraqi Air Force nor Navy could respond to the initial coalition ground assault on G-Day and Iraqi Army resistance was light and uncoordinated.⁴³ Understandably, the coalition ground forces defeated Iraqi fielded forces within four days, accomplishing nearly every operational objective that had set out to achieve.

Synchronized with lethal operational fires, non-lethal fires were simultaneously being rendered leading up to the ground assault. Coalition commanders had identified numerous

³⁹ Ibid., 6.

⁴⁰ Diane T. Putney, *Airpower Advantage: Planning the Gulf War Air Campaign 1989-1991* (Washington, DC: U.S. Air Force History and Museums Program, 2004), 305.

⁴¹ Ibid., 307.

⁴² Ibid., 362.

⁴³ GWAPS, Volume 5, *Statistical Compendium and Chronology*, 231.

Iraqi frontline and reserve divisions in northern Kuwait and southeastern Iraq. A deception effort known unofficially as the “Right Feint,” threatened an amphibious landing of Naval and Marine forces from the northern Persian Gulf.⁴⁴ 7th Fleet naval forces and Marines from the 4th Marine Expeditionary Brigade and the 13th Marine Expeditionary Unit were successful in their less than glamorous decoys in the waters off Kuwait.⁴⁵ The Iraqis considered the threat of a coalition amphibious assault as highly possible and therefore withheld approximately six of their eleven divisions in southern Kuwait as coastal defenders.

The synchronization of lethal operational fires, in the form of an extensive air campaign, and non-lethal fires from the deception efforts of Naval and Marine forces led to one of the greatest military routs in history. Lethal fires shaped the battlefield by destroying fielded forces, interdicting lines of communication and disabling the entire Iraqi logistical system. Non-lethal fires shaped the minds of the Iraqi leadership by convincing them of a pending amphibious invasion as the main effort. Iraqi military dispersals along the coast became easy targets for air and missile attacks, while front-line unit faced the brunt of the coalition ground assault without any hope of reserves or replacements.

A NEW DEFINITION FOR CONSIDERATION

The articulation of a final, acceptable Joint definition whereby operational planners may hang their hats is critical if operational fires are to be used effectively. The definition needs to divorce geography or proximity of forces from bearing any consequence on the operational fire. The definition should emphasize the ability of operational fires to cause operational effects. Operational fires will always be directed at some form of the enemy’s

⁴⁴ Edward J. Marolda and Robert J. Schneller, *Shield and Sword: The United States Navy and the Persian Gulf War* (Washington, DC: Naval Historical Center, 1998), 247.

⁴⁵ William Head, ed. and Earl H. Tillford, ed., *The Eagle in the Desert: Looking back on U.S. Involvement in the Persian Gulf War* (Westport, CT: Praeger Publishers, 1996), 216.

operational center of gravity and may assist the commander by supporting other efforts or the fire itself may be a stand alone tool. A proposed definition for Joint consideration should state that:

Operational fires are preplanned lethal and/or non-lethal fires, targeted against an enemy's **operational center of gravity**. The goal of operational fires is to shape the battlefield or the entire area of operations by accomplishing **operational-level effects**. Lethal and non-lethal fires should be **synchronized** to achieve synergistic effects. Operational activities such as maneuver or tactical actions may see the benefit of operational fires. Operational fires can exist as a stand alone function for the Joint Force Commander or they may support a main effort. Operational fires can occur **anywhere** within the Joint Operating Area (JOA) and may be delivered via a variety of platforms, weapon systems or personnel. Operational fires are reliant on timely and accurate intelligence.

CONCLUSION

Without a doubt, operational fires are critical to any major operation including our ongoing fight against radical Islamist terrorism and to be fully effective we need to have a concise and jointly acceptable definition of this operational function. Operational fires should not be restricted by geographic measurements or distances from fielded forces, rather operational fires should be considered based solely on the objective they intend to accomplish. Operational fires are used by the Joint Force Commander to shape the battlefield, attack operationally critical targets, and by doing so, set conditions for accomplishing an operational objective.

The cause of this confusion is difficult to ascertain although one might look to the Vietnam War as the genesis. During the conflict, senior political and military leaders struggled with campaign design and attempted to apply a nuclear/conventionally focused U.S. military against an insurgent enemy. The President and Secretary of Defense attempted to win the war by target list destruction and focused most of the military efforts on strategic

or tactical levels of war. As a result of this, military operational planners forgot the basics of campaign design and operational art.

Effects based operations (EBO) may sound like a new way of doing business and EBO believers point to Desert Storm as their proof. However, Desert Storm was simply the reawakening of operational art. The U.S. finally locked horns with a conventionally fielded armed force whose operational level of war was easily identifiable and therefore inherently exploitable. Additionally, the factors of time and space had somewhat been mitigated by rapid increases in technology and precision weapons. U.S. forces equipped with good operational intelligence, were able to plan for months against a semi-static enemy and by attacking the enemy with lethal and non-lethal operational fires, the U.S. military achieved incredible success. New definitions and Service parochial terminology are not the answer. Instead, the answer lies in our ability to study historical examples and adapt them to today's environment. Historical examples such as Operation OVERLORD and DESERT STORM prove that operational fires have been, and continue to be one of the critical functions that military planners can rely on for success.

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