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The Ultimate Quarterback: How the Joint Force Commander Can Utilize the Air
Component, Supported by the Ground and Special Forces Components, to Most Effectively
and Efficiently Achieve Operational Objectives

by

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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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23 April 2008

Abstract

The current U.S. military way of war is driven by a conventional, symmetric combat mindset. This immediately leads to designating the ground component as the main effort to achieve operational objectives against ground-centric adversaries. There may be, however, better options that would maximize combat potential to meet the operational objectives with the fewest losses in the least amount of time. One of those options would be for the Joint Force Commander (JFC) to designate airpower as the main effort, using the Joint Force Land Component Commander (JFLCC) and Joint Force Special Operations Component Commander (JFSOCC) as supporting commanders, when the situation warrants. Operation ALLIED FORCE (OAF) and Operation ENDURING FREEDOM (OEF) are used to illustrate the validity of this concept.

This operational concept would be appropriate in certain situations when the Joint Force Air Component Commander (JFACC) has command and control of the preponderance of kill mechanisms to attack the enemy's center of gravity. The use of operational art through an Ends, Ways, Means, and Risks framework is examined to determine when the JFC should consider designating airpower as the main effort and what conditions the JFC should be alert for in order to use this concept. Changes across the entire Doctrine Organization Training Material Leadership Personnel Facilities (DOTMLPF) spectrum are required to codify this change to ensure JFCs have another accepted option to achieve operational objectives.

Table of Contents

Introduction	1
Background - The U.S. Military Way of War	3
Operation ALLIED FORCE	6
Operation ENDURING FREEDOM	7
Operational Art Analysis	11
Recommendations	16
Conclusion	18
Notes	20
Bibliography	25

The only thing harder than getting a new idea into the military mind is to get an old one out.
- Captain Sir Basil Liddel Hart, *Thoughts on War, 1944*

INTRODUCTION

F-16s, F-18s, F-15Es and Tomahawk Land Attack Missiles penetrate deep into enemy territory, free to maneuver to their targets due to air supremacy gained by Special Operations Forces (SOF), F-15Cs, and F-22s. The strike aircraft target enemy command and control facilities, munition warehouses, and enemy reserve force barracks. Simultaneously, large formations of second echelon enemy forces are targeted by F-18s, B-1s, and MQ-9s supported by targeting data and terminal weapons guidance provided by SOF. Shortly thereafter, U.S. Army forces begin to maneuver in relation to front-line enemy forces. Sound familiar? It should, but in this case, the Joint Force Commander (JFC) has directed conventional forces and SOF maneuver to fix the enemy in support of an aerial scheme of maneuver directed by the Joint Force Air Component Commander (JFACC). In this scenario the hammer of airpower and the anvil of ground forces present the enemy commander with a dilemma.¹ If the enemy forces mass, they will be decimated by airpower, unable to defend themselves.² If they choose to disperse, they will be crushed by landpower, unable to maneuver and deliver effective fires.³

This scenario illustrates an effective employment of the joint warfighting team that can be used in certain conditions, but is highly unlikely to happen today. This is due to a conventional, symmetric mindset that immediately designates the ground component as the main effort to achieve operational objectives against ground-centric adversaries. Designation of the main effort is crucial because it signifies how the JFC will concentrate and employ

joint capabilities to achieve operational level objectives and is vital for economy of force.⁴

Gen Mattis, during his tenure as commanding general of the Marine Corps Combat Development Command, stated that U.S. military power must be both relevant and dominant.⁵ To attain this goal, the U.S. military must constantly adapt and improve the *Ways* and *Means* it uses to achieve the *Ends* while minimizing the *Risks*. This includes searching for better *Ways* to maximize combat potential to meet the operational objectives with the fewest losses in the least amount of time. One of those *Ways* is for the JFC to designate airpower as the main effort, using the Joint Force Land Component Commander (JFLCC) and Joint Force Special Operations Component Commander (JFSOCC) as supporting commanders when the situation warrants. This operational concept would be appropriate when the JFACC has command and control of the preponderance of kill mechanisms to attack the enemy's center of gravity. If the hammer can be more effective than the anvil, the JFC should consider designating the hammer as the main effort.

This paper does not advocate decreased joint operations or the sole decisiveness of airpower, but a different, more effective and efficient option for the JFC to consider to achieve operational objectives. Changes across the entire Doctrine Organization Training Material Leadership Personnel Facilities (DOTMLPF) spectrum are required to codify this concept. The most significant of these aspects to be modified are Leadership, Doctrine, and Training and will be addressed later in the paper. Although this paper will concentrate on the command relationships between the JFACC, JFLCC, and JFSOCC in mid to high intensity conflicts, there may also be inherent considerations for command relationships between

different components and their commanders that would be appropriate for future studies.⁶

This study will first consider the current U.S. mindset regarding how the main effort is designated. It will then evaluate two historical U.S. campaign examples, Operation ALLIED FORCE (OAF) in Kosovo and Operation ENDURING FREEDOM (OEF) in Afghanistan, to illustrate the validity of the concept. Next, the use of operational art through an *Ends, Ways, Means, and Risks* framework will be examined to determine when the JFC should consider designating airpower as the main effort and what factors will influence the JFC to use this concept. The paper concludes with recommendations to codify this new concept in the joint community, ensuring it is available to future JFCs as a method to synchronize fires and maneuver to achieve operational objectives.

BACKGROUND - THE U.S. MILITARY WAY OF WAR

Doctrinally, the U.S. way of war is joint, but mainly symmetric. It maintains that the functional or service component operating in a certain domain is designated as the main effort, as well as the belief that ground troops are necessary for conflict resolution. The combination of these two ideas results in the mindset that the ground component will be the main effort during the early phases of conventional U.S. military operations and campaigns, especially during the dominate phase (Phase III). As noted by two respected authorities, Andrew Bacevich and Eliot Cohen, “Among Army officers, a belief that wars are ultimately decided on the ground is an article of faith.”⁷

This attitude is evident in U.S. Army Field Manual (FM) 3-0, *Operations*, that states “landpower normally solidifies the outcome” and that “the outcome of battles and

engagements depends on Army forces' ability to prevail in close combat.”⁸ It is also clear that the Army sees the Air Force as purely a supporting force and not one that has the ability to have decisive effects against an enemy's ground forces, as the Army does.⁹ U.S. Army FM 3-0 implies that Army operations are the decisive element when it states that well-defined operations include, “Employing the support of other Service components to relieve land forces of tasks that detract from the decisive operation” and that, “All Army operations aim to seize, retain, and exploit initiative and achieve decisive results.”¹⁰ This mindset is even evident in joint and Air Force doctrine that lists only two types of counterland missions, Air Interdiction and Close Air Support, and both support the Army either directly or indirectly.¹¹

It is not just Army doctrine that maintains the belief that the Army will be the decisive force and therefore the supported commander. Joint Publication (JP) 3-31, *Command and Control for Joint Land Operations*, states that the JFLCC is responsible for “directing the execution of the land operation” and “synchronizing and integrating movement and maneuver, fires, and interdiction in support of land operations.”¹² It also maintains that “the JFLCC is responsible for planning and executing the land operation portions of the JFC's operation or campaign plan.”¹³

Much of this mindset stems from the Army belief that airpower cannot be a maneuver force and is purely a supporting element. This is evident within the Army itself, as it does not even consider its organic aviation assets as maneuver elements that can be supported by ground forces.¹⁴ It is also evident in JP 3-31 that describes resources the JFLCC can utilize to attack targets as maneuver forces of regiments, brigades, and divisions, but lists airpower

separately.¹⁵

Conversely, as Air Force Basic Doctrine states, airpower can be used as a maneuver element, and is thus capable of executing an aerial scheme of maneuver.¹⁶ In a School of Advanced Air and Space Studies paper, Lt Col Givens illustrates this point by using four historical case studies to outline four key attributes of a maneuver force: the ability to close with and shock the enemy, the ability to exert a zone or area of influence, the ability to compel or deny battle, and the ability to gain and exploit an advantage while denying the enemy that advantage.¹⁷ These same attributes are also used in landpower doctrine and classic theory to characterize a maneuver force.¹⁸ History has shown that airpower is able to exhibit these attributes and therefore should be considered a maneuver force.

Nowhere in Army or joint doctrine does guidance appear that allows for the ground component to support the air component's scheme of maneuver with ground maneuver forces. It follows then, that a JFC would not consider integrating air and ground power in this manner. In fact, JP 3-31 states that the JFLCC plans and controls ground force movement and maneuver to gain an advantage over an adversary center of gravity or decisive points.¹⁹

This mindset wrongly assumes that the JFC should always utilize friendly ground forces as the best instrument to attack the enemy center of gravity, which discounts airpower's capability to accomplish this objective.²⁰ Designating an enemy army as the center of gravity does not necessitate designating a friendly army as the main effort. Both OAF and OEF are examples of campaigns that utilized airpower as the primary kill mechanism to attack enemy ground forces that had been labeled as centers of gravity. These

conflicts are used to illustrate the validity of the ground-supported airpower concept.

OPERATION ALLIED FORCE

OAF was a campaign that featured airpower as not only the primary kill mechanism, but also the official main effort (due to political constraints), which ultimately achieved the objectives. The campaign was, however, inefficient because of the lack of ground troops that could have been integrated into a joint air-ground scheme of maneuver by the JFC. Benjamin Lambeth, a noted RAND scholar, remarked of the situation in Kosovo, “it also reconfirmed that air power in many cases cannot perform to its fullest potential without the presence of a credible ground component.”²¹ Operation ARROW, a Kosovo Liberation Army (KLA) counterattack loosely coordinated with airpower, will be used to support this point.

Ground forces would have been able to support the aerial scheme of maneuver by finding and fixing the Serb army, as well as provide targeting and collateral damage assessments. The OAF JFACC, Lt Gen Michael Short, commented, “SOF forces would have found targets for airpower and we could have been much more effective.”²²

Not only could ground forces have helped to find the enemy, they could have maneuvered in support of the JFACC's scheme of maneuver in order to threaten the Serb army and force them to mass or disperse. Lambeth believes that Serbian ground forces would have had no choice but to maneuver to block key avenues of approach, making them vulnerable to airpower.²³ If the Serbians would have chosen to disperse and hide, they would have violated key principles of war, mass, maneuver, and offensive and been unable to fight effectively against the ground forces. Lt Gen Short noted that, “this conflict was unlike

others in that we did not have a ground element to fix the enemy, to make him predictable, and to give us information as to where the enemy might be.”²⁴

Even though NATO ground troops never fought during the campaign, the KLA was sporadically active against the Serbs and on occasion was able to drive the Serbs out, opening them to air strikes.²⁵ The best example of this support to airpower was near the end of hostilities when KLA soldiers launched Operation ARROW, an offensive against the Serbian 3rd Army. Although the KLA was repulsed, the Serb's counterattack exposed them to four bombers that directly attacked and killed over half the Serbian troops, the generally-accepted level at which a ground force becomes combat ineffective.²⁶ After this setback, the Serbian army dispersed and hid, effectively neutralized by ground-supported airpower.

Although the exact reasons Milosevic conceded may never be known, one of the many reasons, as asserted by Anthony Cordesman, a senior fellow at the Center for Strategic and International Studies, was most likely “Serbia's inability to defeat the ground operations of the KLA without exposing its forces to devastating air attack.”²⁷ This example shows the efficacy of this concept, even with an underdeveloped anvil that is not organized, trained, or equipped to U.S. military standards. It illustrates that the main effort of airpower could have been much more effective and efficient attacking the operational center of gravity had supporting ground forces been used from the beginning of the campaign.²⁸

OPERATION ENDURING FREEDOM

OEF was similar to OAF in that airpower was the main effort, although never officially designated as such. It was different in that ground forces worked closely with

airpower, illustrating that this concept has worked in the past. It worked because airpower had the capability to directly attack the Taliban troops, the operational level center of gravity. With the support of SOF and Afghan militia, airpower forced the enemy into a textbook hammer and anvil dilemma.²⁹ The enemy often chose to mass, allowing ground supported airpower to be decisive. From October until December 2001, over 17,000 strike sorties dropped 22,000 munitions with no combat losses.³⁰ At other times the enemy chose to disperse, which eliminated their ability to maneuver effectively. They were therefore relegated to insignificant harassment operations, further illustrating the efficacy of the ground-supported airpower team.³¹ This highlights the importance of thoroughly coordinated air/land planning that will anticipate enemy actions and outline friendly reactions to exploit them. The operational factors of time, space, and force are critical to this process and must be carefully considered.

A comparison of two major operations in OEF provides an excellent example of the validity of the concept of ground-supported airpower executing an aerial scheme of maneuver. Tora Bora was designed to kill or capture al Qaeda forces, including Osama bin Laden, by using air and ground power. The Afghan militias proved unreliable and did not seal enemy fighter escape routes as planned. This was analogous to not having any conventional troops at all. It resulted in airpower that was not as effective as it could have been, proving the importance of an adequate anvil.

These lessons were learned and applied in Operation ANACONDA, by adding 1,500 conventional western troops to the fight.³² Despite problems with command and control,

planning, and communication, the operation was labeled a success. Consequently, although Operation ANACONDA began with ground forces as the main effort, airpower quickly became the de facto main effort or, as JP 3-0 characterizes it, the “focus of the operation.”³³ Airpower was able to maneuver in the vertical and provide the bulk of firepower to attack the enemy center of gravity. Incredibly, over 900 strike sorties were flown and nearly 3,500 munitions dropped during the operation, flooding the area with massive amounts of firepower that ultimately enabled the operation to meet its objectives.³⁴ Dr. Richard Kugler, a key senior Department of Defense and Joint Staff advisor called it, “the key to winning the battle.”³⁵

During the operation, Army mortar fires were often used to fix enemy fighters and expose them to aerial attack.³⁶ In one case, 100 to 200 al Qaeda fighters were flushed from their caves and then decimated by a flight of A-10s.³⁷ The JFC, U.S. Army MG Franklin Hagenback, stated that this was indeed a role reversal, as airpower was supported by ground forces to achieve objectives.³⁸

This was by no means the only example of this type of support relationship during Operation ANACONDA or the rest of OEF. In the end, it is estimated that 8,000 to 12,000 Taliban fighters and a few thousand al Qaeda fighters were killed and double that number injured during OEF, mainly by airpower.³⁹ It is telling that the Afghan militias had for years been battling the Taliban, especially for cities like Mazar-i-Sharif, and it took airpower supported by SOF to finally achieve victory. OEF illustrates the validity of designating the JFACC as the main effort to optimize the ability of airpower to attack the operational center of gravity in the JFCs overall scheme of maneuver when the situation warrants.

It is also evident that had the JFC actually designated the JFACC as the supported commander, enabling a vertical scheme of maneuver, this campaign would have been more effective and efficient. During Operation ANACONDA, the established command relationships were complex, confusing, and did not allow for unity of command or effort. The operational level planning was not optimum because the JFACC was not involved until very late in the process. Had the JFACC been designated the supported commander, both SOF and the conventional force commanders would have been responsible for supporting him. Instead, the JFACC tried to support three individuals whose efforts were not well coordinated or deconflicted and did not communicate effectively during the operation.

A plan that supported the JFACC's scheme of maneuver would have been much more effective because different types of aircraft and munitions loads would have been optimized for the operation, as well as synchronized to provide for ideal coverage of the environment. Additional benefits of airpower schemes of maneuver are more effective, efficient airspace coordination, deconfliction, and fire support coordination mechanisms established to maximize fires and maneuver. It also would have led to an earlier establishment of the Air Support Operations Center as well as optimized the numbers and placement of Joint Terminal Attack Controllers because the JFACC, as an airman, best understands the significance of these assets. This would have led to better integration between air and land power at the operational and tactical levels. Additionally, a sound ground scheme of maneuver could have been developed to best support the JFACC's scheme of maneuver to flush out enemy forces for waiting aircraft.

OPERATIONAL ART ANALYSIS

In what situations then, should the JFC use the JFACC's scheme of maneuver, supported by a ground scheme of maneuver, as the main effort? During the Mission Analysis phase of the Joint Operation Planning Process, an operational leader must answer two key questions, "What are the ends, ways, means, and risks and how can I balance them to achieve my objectives?"⁴⁰ Applying operational art to the *Ends, Ways, Means, Risks* framework will provide situations when the JFC will most effectively and efficiently achieve the objectives by designating airpower as the main effort.

ENDS - The JFC will receive strategic guidance from the national leadership in the form of the end state and objectives, the items that equate to success.⁴¹ This guidance ultimately leads to development of the operational-level mission statement that helps guide and focus the Joint force.

MEANS - The JFC will be allocated resources and forces to accomplish the strategic objectives as directed by national leadership.⁴² There may be situations when those *Means* are constrained by political factors, leading the JFC to designate airpower as the main effort. OAF was a case when airpower was the only *Means* allocated to the JFC because of international and domestic political considerations. There may also be circumstances when the number of ground troops is constrained by troop commitments to other theaters and is therefore unable to be the main effort. If the United States were to be involved in another conflict in the near future, designating airpower as the main effort may be the best option. Additionally, lack of suitable theater access due to political problems may drive the JFC's

decision to select airpower as the main effort, a relevant factor during OEF.

WAYS – Determining the *Ways* is an important aspect of operational art applied during the operational design process and when the JFC must be a true operational leader. One of the most significant results of this portion of the planning is designating the main effort. As stated earlier, the U.S. military typically assigns the main effort symmetrically, but in many cases, there may be a better *Way* to achieve objectives. This section will discuss the factors that lead to the designation of the main effort: center of gravity analysis, application of the principles of war, and the influence of operational factors.

One of the most crucial tasks during the operational design process is determining the enemy and friendly centers of gravity.⁴³ Once this is accomplished, the JFC should consider designating airpower as the main effort if it passes the “feasibility test.”⁴⁴ It does so when the JFACC has the preponderance of kill mechanisms to attack the enemy's center of gravity directly or indirectly through critical vulnerabilities, as was evidenced in OEF.⁴⁵ This thought process should be used instead of immediately pursuing a symmetrical solution that identifies ground troops as the primary mechanism to defeat enemy ground forces. Although both are necessary, if the airpower hammer can provide greater force than the landpower anvil against an enemy caught in between them, the JFC should consider ground-supported airpower as the main effort.

Another reason for the JFC to designate airpower as the main effort is because it may be able to protect both strategic and operational centers of gravity more efficiently than ground forces. The strategic center of gravity for the United States is typically the national

will to fight, as the current situations in Iraq and Afghanistan highlight.⁴⁶ One of the most significant critical vulnerabilities of that center of gravity is casualty aversion, especially when the conflict does not involve protecting a vital national interest.⁴⁷ Using airpower as the main effort during certain phases of a conflict, with a smaller number of supporting ground forces, can reduce the threat to the U.S. strategic center of gravity.⁴⁸

At the operational level, the U.S. center of gravity is typically the component that the joint force draws its strength from as the main effort. Shifting from ground forces to air forces will significantly increase the ability to protect the operational level center of gravity. Once the critical capability of air superiority is established and freedom of maneuver in the vertical is assured, the ability of the enemy to threaten the U.S. center of gravity will be greatly reduced.⁴⁹ Airpower's asymmetrical capabilities against ground forces provide effective protection because it can operate from the high ground, which is often a sanctuary.

Another factor for the JFC to consider when selecting the main effort is application of the principles of war. The asymmetrical qualities of airpower may have a distinct advantage over other components as the main effort due to its ability to simultaneously employ several key principles of war, especially mass (through precision), maneuver, and surprise. An excellent example of this is during Operation ANACONDA when airpower was maneuvering high above, decimating multiple enemy positions with massive amounts of precision ordinance.⁵⁰ Besides hundreds of enemy fighters being killed, many were known to have fled the battle or surrendered due to the threat of bombs falling, seemingly from out of nowhere.⁵¹

Additional issues for the JFC to consider while determining the best *Way* to achieve

objectives are the impacts of time, space, and force factors. Factor space issues such as excessively long lines of communication, immature theater infrastructure, and cultural sensitivities, similar to OEF, may drive the need for a smaller ground footprint, a factor force issue. Factor time issues such as the need to act quickly may also preclude the ability to build up a large ground force. On the other hand, if the JFC needs time to mass forces, especially during difficult phase transitions, airpower may be the answer. The United States used airpower in this manner during World War II by attacking German mobile reserves, buying time to build up the landing forces at Normandy in June 1944.⁵²

RISKS - Any time the *Ends, Ways, and Means* cannot be balanced, there is *Risk* that the JFC must mitigate. *Risks* can be caused by a range of issues, frequently including time, logistics, and political and cultural sensitivity, as the two earlier case studies illustrated.⁵³ One option to resolve an imbalance and mitigate these *Risks* is for the JFC to use airpower as, “a novel way of using one's sources of military . . . power,” as Dr. Milan Vego, an influential expert on operational art, recommends.⁵⁴ While there are *Risks* identified that may favor the use of airpower as the main effort, there are *Risks* associated with the use of airpower that the JFC must mitigate as well. Pertinent examples include advanced Integrated Air Defense Systems, collateral damage, and fratricide.⁵⁵

In addition to *Ends, Ways, Means, and Risks* considerations, there are scenarios the JFC should be alert for which may be appropriate to use airpower as the main effort. These include campaigns with limited objectives such as OAF or unlimited objectives against adversaries with limited capabilities such as OEF. Coercive or punitive operations to force

compliance or to change behavior, as well as defending an ally or repelling a surprise attack are additional examples.⁵⁶

Conversely, the JFC should not designate airpower as the main effort in a scenario when control of land and/or populations is required, which is one counter-argument to this concept. If the situation requires this capability, ground forces able to accomplish these objectives must be designated the main effort. It is important to note however, that the United States is capable of accomplishing a swift phase transition, as it did in OEF when it was quickly able (with British help) to insert a large amount of troops to begin Phase IV (Stabilize).⁵⁷ This capability would allow the use of airpower as the main effort in Phases II (Seize the Initiative) and III (Dominate) for example, even though a much more robust ground presence was necessary during Phase IV and V (Enable Civil Authority). Also, regime change, which requires a large ground presence, will most likely not be the desired end state for every military campaign in the future, as it was for the last two.

Some may also argue that airpower cannot close with and kill enemy ground forces, necessitating a significant ground force to act as the primary defeat mechanism. Airpower, however, has proven the ability to close with and kill the enemy on a large scale in many campaigns and has advanced quicker than ground power in its ability to kill and survive.⁵⁸ One of many examples occurred during Operation DESERT STORM (ODS) when coalition airpower rendered forty Iraqi divisions combat ineffective, killing over 60 percent of the Iraqi tanks.⁵⁹ This concept of using ground maneuver forces to support a decisive precision aerial scheme of maneuver was even tested by the U.S. Army in 1995 during Exercise *Prairie*

Warrior '95. The test resulted in decisive precision aerial fires that rendered the enemy combat ineffective after the ground maneuver force fixed them in place.⁶⁰ This exercise validated the concept of ground-supported airpower but was never operationalized due to fiscal constraints.⁶¹

Another point of concern is the question, “What's wrong with the way we plan and operate now?” First, OEF has shown that we can achieve objectives using this concept, but it has been six years and the concept is still not codified. Second, the U.S. military is the most powerful military in the world largely because of its creative and innovative capabilities. In order to maintain its dominance and relevance, the U.S. military must seek to constantly improve. There are many challenges that lurk in the future. Using airpower as the main effort, supported by ground power, is one way to fight asymmetrically to achieve the JFC's objectives against those challenges.

RECOMMENDATIONS

Many changes are necessary to codify this concept so that futures JFCs are aware they can utilize airpower in this manner. This discussion will utilize the DOTMLPF framework and will be limited to the three most salient points.⁶²

1.) **LEADERSHIP** – Changing the leadership's mindset is the first and most vital change that must occur to operationalize this concept. Intellectual study and thought, education, dialogue, and debate must occur at senior service levels. This is especially critical between the USAF Doctrine Center and the U.S. Army Training and Doctrine Command to ensure a commitment to this concept is made by both Airmen and Soldiers. This should spur

war gaming and simulation efforts dealing with different plausible scenarios in which this concept may be useful. This, in turn, may lead to the use of these concepts in certain phases of current theater Operational Plans.

2.) **DOCTRINE** - The next major recommendation is to change both joint and service doctrine. First, Joint Publication 3-0, 3-30 and 3-31 should be changed to reflect that the JFC could designate the JFACC as the main effort, supported by the other components (specifically the JFLCC and JFSOCC) in a traditional JFLCC Area of Operations. Both joint and U.S. Army publications should add language to indicate that airpower can be used as a decisive maneuver element against ground forces and subsequently can be supported by traditional ground maneuver forces such as Brigade Combat Teams.⁶³ Additionally, the counterland missions in Joint Publication 3-0, Air Force Doctrine Document 1, *Air Force Basic Doctrine* and 2.1.3, *Counterland*, must add a third counterland mission, Direct Strike.⁶⁴ This mission will detail the direct strike of enemy ground units at the operational level by an aerial scheme of maneuver, supported by friendly troops. Finally, the joint community must adjust the Universal Joint Task List to reflect these changes so that JFCs can appropriately task subordinate units to support the aerial scheme of maneuver.

3.) **TRAINING** – The U.S. military should increase joint training opportunities to exercise this concept at the operational and tactical levels. This will improve capabilities and develop Joint Tactics, Techniques, and Procedures that can be used to support this idea. Also, the U.S. military should initiate exercises that combine the services at the operational and tactical levels. A specific example would be to merge Air Warrior, Red Flag, and a command

post exercise to train to this new concept at the operational and tactical level.

CONCLUSION

Due to a conventional, symmetric mindset, the U.S. military seeks to solve problems posed by enemy ground forces with friendly ground forces, instead of exploring the use of asymmetric assets such as airpower, to serve as the primary defeat mechanism. It was this airpower-based asymmetry that was so effective in ODS, OEF, and OIF. Using operational art, if it is evident that airpower can attack the enemy center of gravity and defend the friendly center of gravity more effectively than ground forces, the JFC should consider designating airpower's aerial scheme of maneuver as the main effort, supported by conventional ground forces and SOF. Dr. Milan Vego believes that the JFC's scheme of maneuver should be bold, novel, and decisive, exactly what a plan with an aerial scheme of maneuver as the main effort provides.⁶⁵ This scheme will allow the JFC to leverage the asymmetry of joint force strengths against adversary vulnerabilities by balancing airpower, SOF, conventional ground forces, and maneuver to ensure freedom of action.⁶⁶

There are certain conditions the JFC can be alert for during the operational design process while the *Ends, Ways, Means*, and *Risks* are being balanced that would be optimal for this concept to be used. Most important is airpower's relationship to the enemy and friendly centers of gravity and the ability to employ key principles of war. Additional elements for consideration are operational factors and constraints of the *Means*.

Although there are counter-arguments to this idea, using airpower as the hammer and ground forces as the anvil has been shown to be extremely effective in the past, most recently

during OEF. In order to maintain its relevance and dominance, the U.S. military must constantly improve and look for opportunities to defeat a wide array of potential enemies. By codifying this concept through joint and service doctrine, senior leadership commitment, and joint training, the JFC will have more options to achieve operational objectives.

NOTES

1. Robert A. Pape, "The True Worth of Airpower," *Foreign Affairs* 83, no 2, Mar- Apr 2004, <http://proquest.umi.com/pqdweb?index=1&did=586448701&SrchMode=1&sid=14&Fmt=3&VInst=PROD&VType=PQD&R> (accessed 1 April 2008). Pape advocates the hammer and anvil strategy with airpower supporting ground forces, not the opposite idea that this paper advocates.
2. Bruce R. Pirne, Alan Vick, Adam Grissom, Karl P. Mueller, and David T. Orletsky "Beyond Close Air Support," (research monograph, Arlington, VA: RAND Corporation Project, 2005), 17. This paper's explanation of the dilemma that an enemy commander is faced with builds upon the explanation in "Beyond Close Air Support."
3. *Ibid.*, 17.
4. Chairman, U.S. Joint Chiefs of Staff, *Joint Operations*, Joint Publication (JP) 3-0 change 1 (Washington, DC: CJCS, 17 September 2006 (Change 1, 13 February 2008)), III-24.
5. Max Boot, "Navigating the 'Human Terrain'," *Los Angeles Times*, 7 December 2005, http://www.cfr.org/publication/9377/navigating_the_human_terrain.html (accessed 19 April 2008). When asked about U.S. military dominance while stationed at Quantico, VA, then LtGen Mattis, USMC, remarked, "we don't want to be dominant and irrelevant."
6. Additional nontraditional command relationships that would provide the JFC with an asymmetrical advantage are recommended for further study.
7. Anderw J. Bacevic and Eliot A. Cohen, *War over Kosovo: Politics and Strategy in a Global Age*. (New York, NY: Columbia University Press, 2001), 5.
8. U.S. Army, *Operations*, Field Manual (FM) 3-0 (Washington, DC: Headquarters Department of the Army, February 2008), 1-15 and 1-17.
9. *Ibid.*, C-12 and C-13. Also, JP 3-31 lists Army assets to be made available for JFC tasking are ATACMs and attack helicopters, not ground maneuver forces. Chairman, U.S. Joint Chiefs of Staff, *Command and Control for Joint Land Operations*, Joint Publication (JP) 3-31 (Washington, DC: CJCS, 23 March 2004), IV-8. It is also telling that the only specific example of Army support to the JFACC in FM 3-0 is Multiple Launch Rocket Systems, not traditional Army maneuver forces. U.S. Army, *Operations*, Field Manual (FM) 3-0, C-12 and C-13.
10. *Ibid.*, 8-5 and 3-3.
11. U.S. Air Force, *Counterland Operations*, Air Force Doctrine Document (AFDD) 2-1.3 (Washington, DC: Department of the Air Force, 11 September 2006), viii, https://www.doctrine.af.mil/afdcprivateweb/AFDD_Page_HTML/Doctrine_Docs/afdd2-1-3.pdf (accessed 2 March 2008).
12. Chairman, U.S. Joint Chiefs of Staff, *Command and Control for Joint Land Operations*, Joint Publication (JP) 3-31, II-6.
13. *Ibid.*, III-2.
14. Henry C. Perry Jr, Murphy A. Caine, and Joseph G. Bruhl, "Air integration in the heavy division: First attack's lessons learned from the NTC," *Armor*, 1 May 2003, 21-25, 48. <http://proquest.umi.com/pqdweb?index=0&did=349345641&SrchMode=1&sid=17&Fmt=4&Vinst=PROD&VType=PQD&RQT=309&VName=PQD&TS=1207749937&clientId=18762> (accessed 4 April 2008). While FM 1-100 does state that Army attack aviation can maneuver, it states only that it can support the ground commander's scheme of maneuver, not execute a scheme of maneuver for itself. U.S. Army, *Army Aviation Operations*, Field Manual (FM) 1-100 (Washington, DC: Headquarters Department of the Army, 21 February 1997), 1-16. Also, FM 3-0, 7-6, outlines when, "the targeting cell may develop priorities that require ground maneuver or aviation attack." This clearly indicates that ground forces, not airpower, maneuver. FM 3-0, 5-14, also discusses the combination of maneuver and interdiction, separating the two when interdiction can be a form of maneuver from the vertical dimension. Additionally, FM 3-0, C-6, states that the Brigade Combat Team (BCT) is the, "basic building block of the Army's tactical formations." It maintains that there are maneuver battalions resident in a BCT and then separately lists combat aviation brigades as modular support brigades on page C-8. Page C-10 states, "Combat aviation brigades are organized to support divisions, BCTs, and support brigades." It does not list maneuver as one of an aviation brigade's missions, nor does it state that aviation can be supported by ground maneuver forces. From an Army mindset, if the Army's organic aviation assets are not capable of being supported, than it stands that Air and Naval airpower would not be able to be supported either. Finally, through many discussions with Army officers, the perception is that they do not consider attack aviation as a maneuver force.

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15. Chairman, U.S. Joint Chiefs of Staff, *Command and Control for Joint Land Operations*, Joint Publication (JP) 3-31, IV-7.
16. U.S. Air Force, *Air Force Basic Doctrine*, Air Force Doctrine Document (AFDD) 1 (Washington, DC: Department of the Air Force, 17 November 2003), viii, https://www.doctrine.af.mil/afdcprivatweb/AFDD_Page_HTML/Doctrine_Docs/afdd1.pdf (accessed 22 May 2008).
17. Robert Givens, "Turning the Vertical Flank: Airpower as a Maneuvering Force in the Theater Campaign," (research paper, Maxwell AFB, AL: Air University Press, 2002), 81.
18. The first attribute, the ability to close with the enemy, is discussed in U.S. Army FM 3-0, page 1-17, when it discusses the ability of ground maneuver forces to close with and destroy the enemy. FM 3-0, page 5-5 outlines the ability of a commander to use maneuver in an area of influence to achieve objectives, the second key attribute that Lt Col Givens notes. The third attribute, the ability to compel battle is inherent in the Army's description of offensive operations and initiative in FM 3-0, page A-1. Concerning the ability to deny battle, FM 3-0, 3-10 outlines the significance of the capability to deny enemy freedom of action during defensive operations, which may influence the enemy not to engage. The Army's definition of maneuver on page A-2 is to, "place the enemy in a disadvantageous position through the flexible application of combat power," precisely what Lt Col Givens' last attribute describes. U.S. Army, *Operations*, Field Manual (FM) 3-0. The Marine Corps also describes, "the essence of maneuver as taking action to exploit some kind of advantage over the enemy as a means of accomplishing our objectives as effectively as possible." U.S. Marine Corps, *Warfighting*, Marine Corps Doctrine Publication (MCDP) 1 (Washington, DC: Headquarters U.S. Marine Corps, 1997), 72. Additionally, Lt Col Givens' discussion of maneuver matches Sun Tzu's ideas. Sun Tzu describes the art of maneuvering as direct and indirect approaches that lead to victory. He also defines the wise general as being one who may withdraw or deny battle, but also conducts an offensive war of movement. Sun Tzu. *The Art of War*, trans. Samuel B. Griffith. (New York, NY: Oxford University Press, 1963), 104 and 41. Similarly, when discussing maneuver forces, Clausewitz states that their, "aim is to bring about favorable conditions for success and then to use them to gain an advantage over the enemy." Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 541.
19. *Ibid.*, IV-4.
20. The first underlying assumption of this statement is that the enemy center of gravity at the operational level of war is often identified as its ground forces. This has been the case in the last four U.S. campaigns and will most likely be the case in the future as the U.S. will continue to protect its national interests against political entities who derive their strength at the operational level from their fielded forces. This belief that U.S. ground forces are the decisive joint force when enemy ground forces are present has been ingrained in the American way of war since this country's inception. It is understandable considering the U.S. Army is the country's oldest military service and has been instrumental in the defense of our nation and its interests. There was, however, no other manner in which to combat ground troops until airpower became a realistic option for the United States during World War II. Since that time though, airpower has become a more lethal and survivable instrument, one that has been decisive in three of the past four campaigns the United States has fought.
21. Benjamin S. Lambeth, *The Transformation of American Air Power* (Ithaca, NY: Cornell University Press, 2000), 231.
22. Lawrence Brown, "You've got to be Kidding: Empowering the JFACC with Selected Ground Reconnaissance Forces" (research paper, Newport, RI: Naval War College, Joint Military Operations Department, 2003), 11.
23. Lambeth, *The Transformation of American Air Power*, 196.
24. Benjamin S. Lambeth, *NATO's Air War for Kosovo: A Strategic and Operational Assessment* (Arlington, VA: RAND Press, 2001), 242. The Kosovo Strike Assessment, conducted by an Army general, concluded that although air power is effective against mobile targets, it is often difficult to find the target and maintain contact, exactly the type of support a ground force could have provided. Douglas P. Yurovich, "Operation Allied Force: Air Power in Kosovo. A Case Study in Coercive Victory" (research paper, Carlisle Barracks, PA: Army War College, 2001), 10.
25. Lambeth, *NATO's Air War for Kosovo*, 54.
26. Lambeth, *The Transformation of American Air Power*, 190.
27. Anthony H. Cordesman, *The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo* (Westport, CT: Praeger Publishers, 2001), 32.
28. Critics of this idea may note that the asymmetry of airpower decreased after initial airpower success against the Serbian army as they adapted by hiding and camouflaging their forces. Had ground forces been available,

they would have been able to flush them out for airpower to attack, ensuring Serbian forces remained one of Milosevic's critical vulnerabilities. This concept is no different than friendly ground forces that normally have some degree of an asymmetric advantage over their adversaries calling for Close Air Support (CAS) when their advantage eventually breaks down.

29. Benjamin S. Lambeth, *Airpower Against Terror* (Arlington, VA: RAND Corporation Project, 2005) xxiii. It was also noted that there were only 300-500 allied SOF involved in the campaign. Michael E. O'Hanlon, "A Flawed Masterpiece," *Foreign Affairs* 81, no 3 (May - Jun 2002): 2.

<http://proquest.umi.com/pqdweb?index=0&did=119910186&SrchMode=1&sid=3&Fmt=3&VInst=PROD&VType=PQD&RQT=309&VName=PQD&TS=1207749335&clientId=18762/> (accessed 12 March 2008).

30. Anthony H. Cordesman, *The Lessons of Afghanistan: War Fighting, Intelligence, and Force Transformation* (Washington, DC: CSIS Press, 2002), 11.

31. *Ibid.*, 19. Additionally, it exposed troops and convoys to airpower that the Taliban and al Qaeda could not respond to. Similar to the Serbs during OAF, the Taliban and al Qaeda fighters turned to Camouflage Concealment Deception (CCD) in order to reduce their vulnerability to airpower. This was often in the form of rugged terrain and caves, which initially held an advantage, but eventually became prisons and led to death by ground enabled airpower. Cordesman, *The Lessons of Afghanistan*, 16 and 18.

32. O'Hanlon, "A Flawed Masterpiece," *Foreign Affairs*.

33. Chairman, U.S. Joint Chiefs of Staff, *Joint Operations*, Joint Publication (JP) 3-0 change 1, V-16.

34. Richard Kugler, *Operation ANACONDA in Afghanistan, A Case Study of Adaptation in Battle*, (Defense Transformation Case Study Number 5, Washington, DC: National Defense University, 2007), 18. Benjamin S. Lambeth, *Airpower Against Terror*; 199.

35. Kugler, *Operation ANACONDA in Afghanistan*, 17.

36. Lambeth, *Airpower Against Terror*; 193.

37. *Ibid.*, 194.

38. *Ibid.* MG Hagenback was designated a JFC by the JFLCC when in fact he had command and control of only land forces. A JFLCC does not have the authority in accordance with joint doctrine to designate JFCs. This command and control relationship is one of the many problems that occurred during OEF. Had airpower been designated the main effort, many of these issues may have been avoided.

39. O'Hanlon, "A Flawed Masterpiece," *Foreign Affairs*. Christian Lowe, "COS: Airpower Most Deadly Component," *Defense Tech*, March 2007. Lambeth, *Airpower Against Terror*; xviii, 126, 129, 135, and 199.

40. Chairman, U.S. Joint Chiefs of Staff, *Joint Operation Planning*, Joint Publication (JP) 5-0 (Washington, DC: CJCS, 26 December, 2006), IV-1 and 2. Determining the enemy's and one's own centers of gravity are vital steps during the Mission Analysis phase of the Joint Operation Planning Process to achieve the principles of unity of effort and economy of force.

41. *Ibid.*, IV-4. This portion, although absolutely necessary, is beyond the control of the JFC.

42. *Ibid.*

43. *Ibid.*, IV-8.

44. William Anderson, "Where you Sit and Centers of Gravity: Bridging the Gap Between Army and Air Force Perspectives," (research paper, Newport, RI: Naval War College, Joint Military Operations Department, 2004), 14.

45. *Ibid.* and Chairman, U.S. Joint Chiefs of Staff, *Joint Operation Planning*, Joint Publication (JP) 5-0, IV-12. Between the Army and Air Force, there is often a major difference in which level of war's center of gravity should be given priority, as well as the best way to attack that center of gravity. OAF is a perfect example of this friction.

46. Milan Vego, *Joint Operational Warfare, Theory and Practice*, (Newport, RI: Naval War College, 2007), VII-

16. Jim Garamone, "Pace: Will of American People is Enemy's Center of Gravity" *U.S. Department of Defense Information*, 24 October 2006, <http://proquest.umi.com/pqdweb?index=0&did=1150835781&SrchMode=1&sid=1&Fmt=3&VInst=PROD&VType=PQD&RQT=309&VName=PQD&TS=1207749138&clientId=18762> (accessed 4 April 2008). Thomas Friedman, "Foreign Affairs; The No-Dead War." *New York Times*, 23 August, 1995, Late Edition (east Coast), <http://query.nytimes.com/gst/fullpage.html?res=990CE1D7113DF930A1575BC0A963958260> (accessed 4 April 2008).

47. Vego, *Joint Operational Warfare*, VII-16.

48. Airpower can minimize this threat by reducing overall U.S. casualties and sustaining public opinion to support the war effort. This is vital for any war, but especially significant for a prolonged conflict.

49. Givens, "Turning the Vertical Flank," vii.

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50. Cordesman, *The Lessons of Afghanistan*, 11.
51. Lambeth, *Airpower Against Terror*, 199.
52. Stephen E. Ambrose, *D-Day*, (New York, NY: Simon and Schuster, 1994), 94. This concept can also be used if the JFC needs time to secure basing rights.
53. Also, enemy capabilities may pose a risk that is too great to accept for large amounts of friendly ground troops that would have been necessary for landpower to be designated as the main effort. Later studies showed this would most likely have been the case during OAF. One study concluded that due to Serbian Anti-Tank rounds and the mountainous, funneling terrain, NATO ground casualties would have been very high. This could only have been overcome by a massive amount of high technology army equipment such as helicopters, artillery, and Unmanned Aerial Vehicles. It also noted that Close Air Support would have been extremely difficult due to poor weather and the difficult terrain. The study assessed that the United States alone would have lost almost 15% of its infantry during the operation. Armin D. W. Dirks "Campaign Analysis of a NATO Ground Forces Campaign in Kosovo" (research paper, Monterey, CA: Naval Postgraduate School, 2000), 64 and 69. Even though this study was conducted after the campaign was finished, OAF campaign planners would most likely have arrived at similar conclusions.
54. Vego, *Joint Operational Warfare*, I-41.
55. A possible higher rate of fratricide could also have a negative impact on troop morale and strain coalition partners that may be involved in the incident. The U.S. F-16 fratricide of Canadian troops at Tarnak Farm in Afghanistan is an unfortunate example of this. Just like with any operational plan, a plan with airpower as the main effort must have branch plans with the associated decision points established at an early date to account for the consequences of taking risks.
56. Conflicts in weak or failed states along the arc of instability have many of the characteristics that may favor the use of airpower as the main effort. Many of the aforementioned time, space, force limits such as access problems, cultural sensitivity, and immature infrastructure could pose considerable challenges to the JFC in this type of situation in the near future. Conversely, there are also times when the JFC should not consider using airpower as the main effort. These include an enemy force's center of gravity that airpower is unable to decisively attack due to its sheer size and subsequent time required to destroy or neutralize it. A conflict with North Korea illustrates this example. Another example would be an adversary with a center of gravity not able to be effectively attacked by airpower. Counterinsurgency falls into this category. Lastly, any phase which requires large amounts of land and/or population to be controlled quickly in Phase IV or V is not suited for airpower as the main effort because airpower cannot accomplish these objectives.
57. Cordesman, *The Lessons of Afghanistan*, 18.
58. Pirne, Vick, Grissom, Mueller, and Orletsky, "Beyond Close Air Support," 24.
59. Jack B. Eggington, "Ground Maneuver and Air Interdiction: A Matter of Mutual Support at the Operational Level of War" (research paper, Maxwell AFB, AL: School of Advanced Air and Space Studies, 1993), 29. Brown, "You've got to be Kidding," 10.
60. Training and Doctrine Command Analysis Center, *Mobile Strike Force 95 Organizational and Operational Analysis*, (Fort Leavenworth, KS, 1996), 100-106.
61. Brown, "You've got to be Kidding," 20.
62. Areas of further study include expanding the Recommendation section to discuss the rest of the DOTMLPF changes required to codify this change. An additional area of study is the development of a new command relationship between the JFC's functional components. This would move away from the current supported/supporting relationship to achieve a more fluid, cooperative, enhancing relationship between the components. This may enable the JFC to more fully leverage advantages of maneuver, firepower, and command and control capabilities to achieve operational objectives.
63. FM 3-0 states that other services can control modular Army brigades. One example listed is the JFACC having OPCON of a Multiple Launch Rocket System, a support relationship that often exists in today's operational environment. Nowhere does it state that BCTs can be controlled by another service's headquarters, as this concept would call for. U.S. Army, *Operations*, Field Manual (FM) 3-0, C-12 and C-13.
64. Phil M. Haun, "Direct Attack – A Counterland Mission." *Air and Space Power Journal*. Summer 2003. <http://www.airpower.maxwell.af.mil/airchronicles/apj/apj03/sum03/vorsum03.html> (accessed 2 March 2008). This new mission is unique in that it would be the only one that does not directly support landpower, but would call for landpower to support airpower.
65. Milan Vego, "Designing a Major Naval/Joint Campaign, Naval War College Lesson Material 4030, (Newport, RI: Naval War College, Joint Military Operations Department), 8 and 9.

66. Chairman, U.S. Joint Chiefs of Staff, *Joint Operation Planning*, Joint Publication (JP) 5-0, IV-27.

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