



# **A CASE FOR INCLUDING AIR POWER IN THE 1998 FM 100-5, OPERATIONS**

**A MONOGRAPH  
BY  
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Infantry**



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**SECOND TERM AY 96-97**

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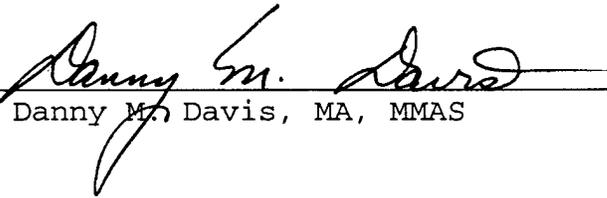
Title of Monograph: *A Case For Including Air Power in the  
1998 FM 100-5, Operations*

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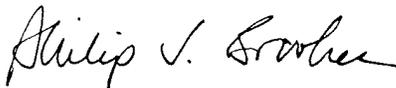
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Accepted this 22d Day of May 1997

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## Abstract

A Case For Including Air Power In The 1998 *FM 100-5, Operations*, By MAJ Charles Forshee, USA, 48 pages.

The 1998 draft *FM 100-5* does not adequately recognize air power. The manual does not adequately recognize air power because it does not address airlift, air space control, or air interdiction in a systemic or logical manner. These concepts are critical to making the full use of air power. They are also the key to providing effective operational fires and operational maneuver.

This paper is a partial review of the Coordinating Draft of the Army's 1998 version of *FM 100-5, Operations*. It focuses on the operational level of war and how air power interacts with ground maneuver at that level. It is in five sections. In the first section, the paper will examine the Army's doctrinal relationship with the Air Force. Next it will define air power through the Air Force lens. Finally, it will examine the Army and Air Force roles at the operational level of war. The second section is a review of the current joint, Air Force, and Army doctrine in support of joint operations. The third section looks at two historical cases where air power played an important role in a campaign: Operation Diadem in Italy in 1944 and Operation Desert Storm in Iraq and Kuwait in 1991. The fourth section analyzes the 1998 draft *FM 100-5* explanation of air power. The last section is devoted to some implications of the proposed doctrine and recommendations.

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## Section 1. Introduction

Following publication, the new *FM 100-5* will be widely read and will affect all in the Army. It will represent the way the Army thinks about warfare and how the Army intends to fight. *FM 100-5* will have a considerable reading in the joint community. Our sister services will read *FM 100-5*; searching for how the Army views their piece of the larger picture. If history is any guide, other services will also seek new directions in joint doctrine. Viewed from this perspective, *FM 100-5* is a tall order. Because of this, it should be collectively our best cut at how we think things should work. It should not be a grandstand for parochialism, pet peeves, or arcane ideas.

This five section paper is a partial review of the Coordinating Draft of the Army's 1998 version of *FM 100-5, Operations*. It focuses on the operational level of war and how air power interacts with ground maneuver at that level. In the first section, the paper will examine the Army's doctrinal relationship with the Air Force. Next it will define air power through the Air Force lens. Finally it will examine the Army and Air Force roles at the operational level of war. The second section is a review of the current joint, Air Force, and Army doctrine in support of joint operations. The third section looks at two historical cases where air power played an important role in a campaign: Operation Diadem in Italy in 1944 and Operation Desert Storm in Iraq and Kuwait in 1991. The fourth section analyzes the 1998 draft *FM 100-5* explanation of air power. The last section is devoted to some recommended changes to the proposed doctrine and implications of those changes.

The 1998 draft *FM 100-5* does not adequately recognize air power. The manual does not adequately recognize air power because it does not address airlift, air space control, or air interdiction in a systemic or logical manner. These concepts are critical to making the full use of air power. They are also the key to providing effective operational fires and operational maneuver.

According to *Air Force Manual (AFM) 1-1*, "Aerospace forces perform four basic roles: aerospace control, force application, force enhancement, and force support." The manual further states that aerospace power grows out of the ability to perform these roles using an aerospace platform for military purposes.<sup>1</sup> This paper will define air power in terms of the aerospace roles listed in *AFM 1-1* except for force support. The paper excludes force support because it deals with the service and support of aviation itself. The Army views service support as necessarily touching everything. This paper will use air power in place of aerospace power. Further, when discussing the force enhancement role, the paper will refer to airlift instead. The paper uses these conventions because of the paucity of Army space assets and in-flight refueling capability.

The Army cannot successfully fight alone in future conflict. This is not necessarily the case with regard to our sister services. Using their Marine forces, the Department of the Navy is fully capable of carrying out a wide spectrum of operations independent of the other services. Similarly, the Air Force is capable of Strategic Attack and Counter-air operations independent of other services participating. In contrast, to conduct operations of any size, the Army must have the cooperation and support of the other services. In the past, this has been less of a problem because of a pervasive view in the Army that, no

matter what, simple logic would compel the Joint Forces Commander (JFC) to support our efforts.

This paper does not review U.S. Marine Corps doctrine as a method for the Army or Air Force to emulate or compare. This is for two reasons. First, the Marine Corps organically possesses both rotary and fixed wing combat aircraft. Neither the Army nor the Air Force are similarly equipped. Second, according to Marine Corps doctrine, fixed wing aircraft are primarily used to augment fire support assets. The augmentation is necessary because Marine field artillery is not as robust as that found in the Army. The primary use of Marine fixed wing assets are tactical in nature because Marines usually employ them close and in support of ground tactical maneuver.<sup>2</sup>

### ***Army and Air Force Relations***

The Army and the Air Force have a special relationship. In most operations, one service will depend on the other for success in a campaign. Neither service is likely to win the next war alone. The Army has, since the advent of air power, relied on the Air Force to support its maneuver. This support has included as close air support (CAS), air interdiction (AI), tactical airlift, and counterair operations that have led to air superiority. The purpose of such support has traditionally reinforced or enabled maneuver.

Close air support and air interdiction either reinforced other fire support assets or gave fire support additional reach at the tactical level of war. Tactical airlift has served to move replacements and supplies both to and within a theater of operations. For airborne operations, tactical airlift has usually facilitated some operational maneuver. When

performing counterair operations, the Air Force has enabled the Army to operate in the theater.

Control of the air is worthy of special explanation. It is a necessity. It facilitates both further applications of air power and maneuver. As Colonel John Warden has written, "Since the German attack on Poland in 1939, no country has won a war in the face of enemy air superiority, no major offensive has succeeded against an opponent who controlled the air, and no defense has sustained itself against an enemy who had air superiority."<sup>3</sup>

The Army employs its own assets dealing with airspace in a manner similar to the Air Force. Air Defense assets provide a measure of air control, attack aviation provides force application, and assault aviation performs force enhancement tasks. The Army, however, approaches these roles quite differently. The Army regards Air Defense as a different operating system and folds aviation of all types in with maneuver. The combat service support function that army aviation provides does not merit special attention in the new draft *FM 100-5*.

The Air Force also has the capability to provide operational fires. The JFC may employ these fires either to support ground maneuver directly or to perform a separate purpose. In the case of the Gulf War, operational fires were initially not only the main effort, they were the only effort. There may be a case in the future where ground maneuver must support fires delivered by the Air Force.

The ability to move men and materiel by air is a special capability that the U.S. possesses. Since the World War II, the U.S. has relied on that capability to concentrate combat power to far flung parts of the world.<sup>4</sup>

Because of evolving joint doctrine and practice, Army doctrine must explain how the Army will support the JFC. Doctrine should say more than, 'The Army will use air support.' It should explain how we fit into the larger picture that includes air power. The 1993 version of *FM 100-5, Operations* discusses air interdiction and close air support in terms of supporting Army operations.<sup>5</sup> The notion that air interdiction will support Army operations may not be valid given the Gulf War experience and future increased reliance on precision weapons. Army doctrine should fit into a larger framework; especially with regard to the Air Force.

Unfortunately, the Army and the Air Force have often disagreed over doctrine. Almost from the beginning, radical advocates of air power and conservative land warriors have disagreed over what it meant to be able to wage war in the air. Sometimes, as in the famous case of Billy Mitchell, courts martial have resulted. Other times, there has been accord and agreement over the proper use of air power. The post-Vietnam Air Force clearly felt that they had two important jobs. First was their responsibility for nuclear strikes. Second, the Air Force would enable the Army to conduct operations by controlling the air and providing close air support and tactical air lift.<sup>6</sup> The Army seems to agree most when the Air Force directly supports Army operations.

The Army has often been disappointed with Air Force support. Most recently, Army commanders in Desert Storm felt most strongly, that the Air Force was not adequately supporting their fight.<sup>7</sup> The support issue however, is nothing new. During World War II, General Eisenhower threatened to resign over the issue of bombers supporting maneuver prior to the Operation Cobra breakout. The support the Air Force

did finally render resulted in the destruction of a U.S. Army battalion and the death of General Leslie McNair.<sup>8</sup>

The Air Force has, since its inception, fought for autonomy and freedom of action. *Air Force Manual 1-1* states, “Aerospace forces should be centrally controlled by an airman to achieve advantageous synergies, establish effective priorities, capitalize on unique strategic and operational flexibilities, ensure unity of purpose, and minimize the potential for conflicting objectives.”<sup>9</sup> For good reason, centralized control by an airman is something the Air Force has held tenaciously since the Battle of Kasserine Pass in World War II.<sup>10</sup> Orchestrating the complex system of air power to best effect is hard to do. The nature of air power simply demands centralized control.

### ***Airspace Control***

Giulio Douhet was a pioneer air power theorist. He wrote of the importance of command of the air, “The struggle for command of the air constitutes the unique object of aerial warfare which the Independent Air Force should set up for itself.” Douhet recognized that airspace control was the single factor that made other applications of air power possible.<sup>11</sup>

Douhet is also famous for his dictums that there was no way to stop an air offensive and that nations should prepare to inflict even greater destruction on other nations.<sup>12</sup> The idea that the bomber was always going to get through had great currency in the years before World War II.<sup>13</sup>

What Douhet and others missed was the technical nature of air power and how sensitive it is to technical change. The invention of radar, better air defense command and

control, and better interceptors swung the advantage from bombers to fighters.<sup>14</sup>

Nevertheless, Douhet described an essential truth. He understood that control of the air space allowed for the further application of air power.

### ***Operational Fires And Maneuver From Deep Operations***

The concept of deep operations first came into U.S. Army in the late 1970s. The 1976 version of *FM 100-5, Operations* describing Army AirLand Battle was the first to talk about deep operations. AirLand Battle envisioned Army attack air, field artillery, and maneuver forces all attacking deep. The other major player in deep operations, as defined in AirLand Battle, was the Air Force.<sup>15</sup> There was not a lot of discussion about the purpose of the deep operation, only that it should occur.

The Soviet theorist Tukhachevskii sought to find a solution to a similar problem. His problem stemmed from of stalemate that characterized the Great War. Part of his solution to the stalemate was the concept of deep battle using operational art. Within this concept, Tukhachevskii envisioned an independent force of tanks, aircraft, and airborne forces exploiting a rupture in enemy lines to destroy the “various echelons of the enemy layout” of his defense.<sup>16</sup>

Tukhachevskii recognized two important points about deep battle. The first was that the scale, timing, and purpose of the deep operation would be operational in nature. It was different and more complex than normal tactical problems. G. Isserson, a member of Tukhachevskii’s inner circle, wrote that they were intent on writing a new form and technique of defeating the enemy.<sup>17</sup> The second point Tukhachevskii made was that the commander of the deep battle should be independent; answerable only to the theater

commander. For the deep battle to work, deep commanders had to coordinate with the tactical commander. Tukhachevskii did not think that tactical concerns should control the deep battle.<sup>18</sup> Deep battle, was therefore, operational in nature. Because of the technology of the day, most envisioned deep battle primarily in terms of maneuver.

The Soviets used a concept of deep battle often in the Second World War. The Soviet Army encirclement of the Sixth German Army in Stalingrad provides an example of their concept of deep battle. What was lacking from their encirclement however, was an independent maneuver group as described by Tukhachevskii. Field Marshall von Manstein, a German Army commander opposing the Soviets, opined later that had the Soviets taken such an approach, the Soviets would have caused a complete collapse of the German defensive system.<sup>19</sup>

The initial U.S. concept of deep operations gave birth to the 1982 version of *FM 100-5* that introduced the operational level of war and the purpose of deep operations. The purpose of deep operations was to “delay, disrupt, or destroy the enemy's uncommitted forces and isolate his committed forces so that they may be destroyed.” Further, the manual states that “The deep battle is closely linked with the close in fight.”<sup>20</sup> The choice of words in the 1982 version is almost unfortunate. What the manual refers to as deep battle is not the same as what Tukhachevskii meant when he wrote about it.

The 1982 American version of Tukhachevskii's concept is not nearly as breath taking. It envisions the deep fight facilitating the close fight. The point of the deep operation in the 1982 version was to delay, disrupt or destroy the enemy's uncommitted forces to isolate his committed forces. The ultimate purpose of the operation is to isolate and subsequently destroy the enemy's committed forces.<sup>21</sup> Deep operations, as defined in

1982, inherently support or facilitate tactical maneuver. This makes the 1982 version of deep operations normally tactical in nature.

Tukhachevskii had in mind the destruction of an entire defensive system; not taking a bite out of it. Doctrine can not, nor should not, always follow theory. A doctrine that has no means of execution is folly. Doctrine must not only conform to intellectual constraint, but also to political and technological constraints. What the 1982 writers had in mind was technically feasible in their day.

In 1979, the Air Force published a new version of AFM 1-1. The major emphasis of the manual was that the Air Force assisted the other services to win their battles. Much of that assistance was to come from close air support. Many in the Air Force considered the 1979 version the nadir of Air Force doctrine. It possessed a comic book style and lost its emphasis on war fighting. Perhaps its best contribution was that it served as a wake up call to Air Force officers and caused them to think about their profession.<sup>22</sup>

The shift from a close air support emphasis to interdiction was one of the main thrusts of the new thought. The biggest shift came from the results of a Joint Studies Group at Nellis, AFB in 1979 looking at Joint Second Echelon Interdiction. This group started the intellectual thought toward the Follow-on Forces Attack (FOFA) mission.<sup>23</sup>

Interestingly, Air Force thinking about the operational level of war owes much to both Army doctrine and professional writing. General Don Starry wrote an article in *Military Review* in 1981 entitled "Extending the Battlefield." In it, General Starry wrote forcefully about deep operations, claiming that without deep attack, the enemy was "getting a free ride to the battlefield."<sup>24</sup> The article, coupled with the subsequent

publication of *FM 100-5* in 1982, started many in the Air Force thinking about the operational level of war and what their role was in mid to high intensity warfare.

Coincident with their professional re-examination came increased capabilities within the Air Force. During the 1980s, the Air Force gained a true day/night all-weather capability with LANTRIN and other similarly equipped aircraft.<sup>25</sup> Armed with both the ability and the desire, the Air Force began to travel a separate path. Because the Air Force has a tradition of independent operations, they naturally began to investigate what their newly developed technology could provide to the operational art.

### ***Airlift: More Than Transportation***

Airlift has revolutionized warfare because of its ability to concentrate combat power rapidly to any spot on the globe. The ability to conduct strategic airlift is the backbone of much of the U.S. strategy of deterrence. Inherently, airlift possesses both speed and flexibility.<sup>26</sup>

At the operational level, airlift aircraft can provide a logistic function on one mission by delivering supplies. On its next mission, the same aircraft can provide the platform for an airborne operation's operational maneuver. Using the Army's doctrinal framework, the former function is combat service support. The other latter function is maneuver. Yet, the same Air Force crew, aircraft and control system performed both missions. The speed and flexibility of these aircraft makes airlift, a sub-set of air power, different from a simple transportation function.

## ***An Operationally Minded Air Force***

The effect of the operational thinking caused the Air Force to re-examine its total role in warfare. This self examination caused the Air Force to think about aerospace control as more than just something that let the other services do their job. The Air Force realized that control of the airspace also enabled them to be an operational force on the battlefield.<sup>27</sup>

The Air Force realized that the newly developed strike technologies enabled them to attack uncommitted forces or the enemy's transportation network. Either attacks had the potential to destroy the infrastructure of the enemy's defensive network or at least to pin enemy maneuver forces in their place. In short, air interdiction held some promise of Tukhachevskii's deep battle irrespective of maneuver. There are some problems with this notion of deep battle. The first and most obvious is that independent air interdiction efforts have never provided the intended effects.

The reason independent air interdiction efforts fail is that the enemy adapts itself to avoid the effects of air attack. Common counter-measures to air attack are to increase the air defense systems in the area of attack, restricting movement in hours of daylight, and dispersing forces. Section 3 further illustrates this point with two historical cases. The Air Force is cognizant of the limitations of air power. It is not a doctrinal tenet that they win wars by themselves. What the Air Force does recognize is that commanders should conduct operational deep battle independent of tactical maneuver.

While airlift remains an Air Force mission, it became a part of the systemic and holistic approach to war that Air Force doctrine has become. The 1992 version of *AFM*

*I-I* represents this holistic approach to air power and its nature at the operational level.<sup>28</sup>

It is an approach that the Army would do well to emulate in its doctrine.

### ***An Operationally Minded Army***

Since 1982, when the Army introduced the term operational art, the Army has led the way in its definition. Paradoxically, the operational level of war cannot be the Army's focus. The Army, as an institution or force on the battlefield, is fully capable of operational maneuver. When it executes an operational maneuver, however, it looks a lot like tactics and the tactical level of war. This is because the Army's weapons systems focus in on the close fight.

Except for theater ballistic missiles, which the Army possessed only a short time ago, Army weapon systems have been and are geared to the Corps battle. The longest range weapon system that the Army possesses, the Army tactical missile system (ATACMS) and the Apache helicopter, are doctrinally employed in the deep operations which are to support the close fight. This is not to say that ATACMS or Apache could not have operational effects or be used for an operational purpose. It simply goes back to the idea, as stated in 1982, that deep operations are linked to the close fight.<sup>29</sup>

## Section 2. Doctrine.

### ***Doctrine Is Both Authoritative And Directive***

The *Joint Doctrine and Capstone Primer* begins its section on doctrine with, “Military doctrine presents fundamental principles that guide the employment of forces. It is authoritative.” Its purpose is to provide unity of action on the battlefield.

Doctrine seeks to anticipate future warfare in order to provide a usable framework for the future commander to use. Although the primer admits that it is neither policy nor a statement of strategy, it says that it does attempt to be a guide for the best method to employ military force.<sup>30</sup> The purpose of the primer is for joint doctrine. Its definition of doctrine is a laudable goal of any military doctrine.

Planning for operational fires is a task in the *Universal Joint Task List*. The authors of the list intended that joint planners would have a conceptual framework to deal with fires that are delivered by some combination of missile, artillery, or aircraft for an operational purpose.<sup>31</sup>

The *Department of Defense Dictionary of Military and Associated Terms* does not define operational fires.<sup>32</sup> This paper will use operational fires as defined above from the *Task List*. Operational fires include all fires delivered by naval gunfire and other tube artillery fired for an operational purpose. In addition, operational fires include air interdiction missions conducted for an operational purpose.

Operational fires are different and distinct from tactical fire support. This distinction, for the most part, excludes tube artillery from this context, but it is

theoretically possible. In usual cases, missiles and aircraft conducting air interdiction missions deliver said operational fires.

*Joint Pub 3-03* defines interdiction as, “Actions to divert, disrupt, delay, or destroy the enemy’s surface military potential before it can be used effectively against friendly forces.”<sup>33</sup> Interestingly, air interdiction so defined can either have the purpose of Tukhachevskii’s deep battle or the Army’s vision of deep operations. Doctrine leaves the JFC free to decide the purpose of the operation by his application of the operational art. The same manual states that interdiction can have strategic, operational, and tactical effects.<sup>34</sup> *Joint Pub 3-03* also states that planning for interdiction is part of campaign planning and that the JFC should set its priorities.<sup>35</sup>

As stated in *Joint Pub 3-03*, not all air interdiction missions are operational. While not a U.S. recognized joint term, battlefield air interdiction (BAI) is an example of interdiction used for a tactical purpose. The purpose of BAI is to support tactical maneuver in the close fight. With the 1986 version of *FM 100-5*, the Army defined battlefield air interdiction as that interdiction requested by maneuver commanders to support their future operations.<sup>36</sup> The term is also found (undefined) in the two Joint Operations Planning and Execution System (JOPES) volumes.<sup>37</sup>

The concept of BAI remains in the *Multi-service Procedures for the Theater Air-Ground System*, by requiring Joint Force Commanders to establish procedures for land and sea component commanders to specifically identify interdiction targets which their organic assets can not range. The manual goes on to state that the interdiction targets should be in support of planned maneuver by land or sea forces.<sup>38</sup> Significantly, this manual makes a distinction between air power and fire support.<sup>39</sup> If true that the authors

of this document felt that air power was a sub-set of fire support, then the phrase is redundant. The services recognize that air interdiction will not always be in support of maneuver because they have written specific procedures for cases when it should.

Doctrine requires JFCs to plan attacks on strategic and operational centers of gravity as well as interdiction of enemy forces as a part of their campaign plan.<sup>40</sup> There is no particular restriction on the JFC that his interdiction, strategic attack, or any other attack on an operational center of gravity should support the future operations of the land component commander. In other words, there is nothing in the joint doctrine to compel the JFC to support the Army's desire for what it conceives as deep operations; supporting the close fight.

### ***Air Force Support Of Joint Operations***

As stated in Section 1, this paper will make no distinction between aerospace power and air power. The distinction, as defined in *AFM 1-1*, is that aerospace includes space as well as the realm formerly defined solely as air.<sup>41</sup> Air power makes several contributions to a campaign. *AFM 1-1* states, "Aerospace forces perform four basic roles: aerospace control, force application, force enhancement, and force support."<sup>42</sup>

Aerospace control is one of the most important aspects of a campaign. The role of aerospace control includes the missions of offensive and defensive counter air, among others. The role of aerospace control is to dominate or control the aerospace environment. For the Air Force to perform other roles, it must first gain aerospace control.<sup>43</sup> It is through the role of aerospace control that the air force intends to gain air superiority and air supremacy.

The functional outcome of defensive counter air is the same as Army air defense operating system.<sup>44</sup> The purpose of both is to provide protection by denying the enemy use of the air in a reactive manner. Recognizing the similarity of effect, most Armed Forces around the world put ground air defense in their air forces. Joint doctrine also stipulates the airspace control authority (ACA) and the air defense commander (AADC) should be the same person. This person should either also be the JFACC or subordinate to him.<sup>45</sup>

The Air Force doctrine states that air power has decisive uses. Central to that doctrine is that air power has the potential for direct and immediate effect using its role of force application. This role includes both close air support and air interdiction missions.<sup>46</sup>

The definition of air interdiction in *AFM I-1* is the same as in the joint manuals. *AFM I-1* goes on to say that interdiction can destroy, pursue, or interrupt the plans of enemy forces. Most interesting in the manual's discussion of interdiction is that interdiction should complement surface maneuver. By complementing surface maneuver, the JFC places the enemy in a dilemma. By the enemy dispersing his forces to avoid air attack, he invites destruction from surface maneuver. By concentrating to meet a surface attack, the enemy invites destruction from the air.<sup>47</sup>

The Air Force view is that it can support, be supported or operate independently. *AFM I-1* states that in all cases, the Air Force prioritizes the effort to support of: the war, the campaign, and then the battle.<sup>48</sup> Implicitly, and according to joint doctrine, the JFC sets the priority.

## ***Army Support of Joint Operations***

The 1998 Coordinating Draft of *FM 100-5* is emphatic that no service has the capability to win (a war) alone. The Army's unique contributing function to the joint team is that only the Army can make long-term the effects of land operations. To perform that function, the Army relies on the other services to perform their part as well.<sup>49</sup> Joint doctrine puts the onus on the JFC to harmonize this effort.

Continuing with the precedent set in 1982, the 1998 version of *FM 100-5* discusses the strategic, operational, and tactical levels of war. The manual states that commanders develop campaigns to achieve strategic objectives through the application of the operational art.<sup>50</sup> While theoretically not outside the purview of an Army commander, strategic objectives are normally the responsibility of the JFC. In any case the JFC would define those strategic objectives.<sup>51</sup>

The operational art, the manual states, seeks to employ force to attain goals by conducting major operations and campaigns. The manual emphasizes tactical operations by saying that success at that level enables operational success. The manual defines major operations as a set of tactical activities and campaigns as a series of related military operations.<sup>52</sup>

To attain success, the 1998 version of *FM 100-5* posits that combinations are the key to combined arms and joint operations by stating:

“No single action, weapon, branch, or arm of service generates sufficient combat power to achieve the effects required to dominate an opponent. The proper combinations of actions and systems generates such power. Commanders combine actions and resources in light of two fundamental concepts -- (1) Complementary and reinforcing effects, and (2) asymmetric attack.”

This is a powerful paragraph describing a difficult concept. Complementary effects are defined as those that present the enemy with a dilemma. The actions that an opponent takes to avoid the effects of one attack, expose him to the effects of the other. The manual cites the example of artillery to fix infantry while a mounted force maneuvers against the flank and rear as an example of a complementary effect.<sup>53</sup>

The manual defines reinforcing effects as those effects that simply add to another. The manual cites the example of air power used inside the range of artillery as a reinforcing effect. The 1998 *FM 100-5* claims that the most effective use of combat power is when effects complement each other.<sup>54</sup>

The term asymmetric attack, if accepted in the final 1998 version *FM 100-5*, is new. The concept, however, is not new at all. The concept is a logical progression of synergistic effects as described by the 1986 *FM 100-5*.<sup>55</sup> It is also, in a very visceral way, George Patton's "Catch the enemy by the nose with fire and kick him in the pants with fire emplaced by maneuver."<sup>56</sup> The manual states that, "Army forces seek to apply complementary and reinforcing effects on an opponent to achieve an asymmetric advantage over an opponent".<sup>57</sup> It defines the asymmetric attack as both overmatching and dissimilar. It is an attack which the opponent has no design or capability to fight against it. In other words, kick him hard in a way that he can not reply.

According to the 1998 *FM 100-5*, "The Army employs military power in the form of operating systems." These operating systems are the means by which the Army executes its core functions.<sup>58</sup> Of interest to this paper are the two operating systems of maneuver and fire support because they are the primary means by which the Army or a joint force strikes at the enemy.

The manual defines the operating system of maneuver as having three subordinate systems: Dismounted, Mounted, and Aviation. It further stipulates that commanders organize the maneuver systems and employ parts as units.<sup>59</sup>

According to the 1998 version of *FM 100-5*, "The purpose of fire support is to defeat enemy forces and support maneuver." The manual incorporates field artillery, air support and naval gunfire into this operating system. The manual defines air support as that combat power provided in support of Army operations from the Air Force, Navy, and Marine Corps.<sup>60</sup> This definition clearly places air power in a supporting role to the Army.

Unfortunately, the concept of fire support as defined in the 1998 *FM 100-5* does not seem to account for Army capabilities to provide operational fires. The manual's only discussion of deep fires is in the Field Artillery section and in the context of shaping the battlespace for the close battle. The manual does not account for other services ability to provide operational fires. The manual's only reference to air support is in the context of helping Army commanders strike the enemy.<sup>61</sup> These notions are not in harmony with joint doctrine which places air forces on an equal footing with ground and sea forces.

This conception of deep fires limits the potential of operational fires. The first shot of Operation Desert Storm was from an AH-64 helicopter destroying an Iraqi power generating station at an air defense site (an offensive counter-air mission) to facilitate operational fires.<sup>62</sup> The strategic attacks on Baghdad were independent of the ground maneuver. Argumentatively, the AH-64 attack could have been shaping the JFC's

battlespace. But it was not acting as an arm of maneuver and certainly not linked to the close fight. This incongruity demonstrates that limiting air power also tends to limit the realm of the possible for the operational art.

### Section 3. Historical Cases

Two historical cases demonstrate how operational maneuver and fires interact with each other to form the asymmetric attack discussed in the 1998 version of *FM 100-5*. The cases selected are the successive operations of Strangle and Diadem in Italy, 1944 and Desert Storm in 1991. In both cases the success enjoyed are from putting the enemy in the dilemma spoken of in both *AFM 1-1* and the draft of *FM 100-5*. The historical cases are indicative that the concept of asymmetric attack is fairly old. The fact the concept of asymmetric attack is newly being accepted into Army doctrine is a function of emphasis rather than discovery of something new.

Both of the historical cases demonstrate the inherent capabilities of air power. Both cases utilize the roles airspace control, force application and airlift in their application of air power. Just as significant though, is the necessary linkage to maneuver that makes the application of air power turn from an advantage through attrition to a decisive application of force.

#### ***Operations In Italy In 1944: Operational Maneuver And Fires In Tandem***

During the Allied attempt to break the Gustav Line in Italy in 1944, the Air Force attempted use of air power alone to break the stalemate. The Allies named the operation Strangle and it began 19 March 1944. The intent, as the name implies, was to make it impractical for the Germans to reinforce or supply the Gustav Line; they would be “strangled” out of their position. Operation Strangle failed because it relied on air power alone to dislodge the Germans. This operation did not place the Germans in a dilemma.<sup>63</sup>

For the Germans to hold the Gustav Line, they needed to be able to create and maintain operational reserves to counter allied attacks. While operationally inconvenient, the Germans merely moved at night. The stalemate continued.<sup>64</sup>

Little of the air interdiction effort would have been possible without air superiority. The Allied air forces enjoyed airspace control throughout the operation. The Allies crippled the German Air Force before the invasion of Sicily and never recovered in the theater. Because of this, Allied air power acted with virtual impunity through out the entire campaign because of air superiority. And, just as important, the Allies were largely sheltered from German air attack.<sup>65</sup>

The Allies ordered Operation Diadem 25 Apr 1944. Diadem linked ground maneuver, deception, and operational air interdiction together and succeeded. Diadem worked because it set the Germans on the horns of a dilemma. The ground attacks and deception caused the Germans to commit their reserves quickly. U.S. air interdiction prevented the German reserves' timely arrival and therefore made the Germans less effective. The German's need for speedy reaction also aided the air attack. That was because the Allies forced the Germans to concentrate and pass through transportation choke points making them more lucrative targets for air attack.<sup>66</sup>

While tactical airlift was not a decisive element of Diadem, it did provide a key contribution to the larger operation in Italy. The Allies employed airborne assaults in Sicily and Anzio, disrupting the German rear areas. The Allies also used airlift to move critical materiel throughout all operations in Italy.<sup>67</sup>

Operation Diadem did not win the Second World War. It did have the effect of ejecting the Germans from the Gustav line. What makes it so significant is that before the

failed Operation Strangle, ground maneuver backed up with massive fire support similarly failed to rupture the German defensive line. In turn, Strangle also failed. When the Allies linked and synchronized maneuver and air power, then the offensive power proved too much for the Germans to handle and they had to quit their defensive positions.

### ***Operation Desert Storm: Operational Maneuver And Fires With Acrimony***

The Air Staff began planning an air campaign to eject Iraqis from Kuwait shortly after Kuwait was invaded. When General Schwarzkopf asked the Vice Chief of Staff of the Air Force, General Loh for assistance with an air option in Kuwait, the Air Staff forwarded a plan to Central Command. The plan was code named "Instant Thunder." The plan stopped just short of claiming that air power alone could eject the Iraqis from Kuwait.<sup>68</sup>

The Instant Thunder plan focused extensively on strategic attack. The JFACC eventually modified this plan to become part of the Desert Storm campaign. The air portion became much more robust and included air interdiction attacks on the Republican Guard units in the vicinity of Kuwait. As the campaign transitioned to prepare for the ground offensive, air interdiction of the Republican Guard and front line divisions gained in importance.<sup>69</sup>

Following the strategic attack plan was a very aggressive offensive counterair attack phase that focused on gaining air supremacy very early in the war.<sup>70</sup> The amount of air power available in the Gulf later allowed the Coalition to execute this phase simultaneously with the strategic attack. The result of the counter air attack was so

successful that, again, U.S. air acted with impunity in South West Asia and no Iraqi aircraft attacked U.S. Ground forces.<sup>71</sup>

The only challenge to Coalition air supremacy in the Gulf was from tactical ballistic missile attacks from Scud missiles. After Iraq launched Scuds on Israel, a great deal of the Coalition air effort went to “Scud hunting.” This effort diverted critical assets. The Army provided the only defensive effort to the Scud attacks with the Patriot missile. The Scud hunting effort did not seem to have destroyed any launchers or missiles. Some experts have disputed the success of the Patriot missile intercepting the Scud through post war analysis. Despite this, the Patriots evident success at the time was crucial to providing a sense of protection and a means to buttress the Coalition.<sup>72</sup> The effort certainly did hinder Iraqi attempts to launch missiles and failed to fracture the Coalition.<sup>73</sup>

From a theoretical stand point, the air interdiction during the preparatory phase of the campaign was operating at the operational and tactical levels of war. The interdiction that focused on the Republican Guard units had an operational purpose. The Republican Guard was in a position to stop Coalition attacks and therefore constituted an operational reserve. The attacks on the front line units had the effect of preparatory artillery fires and were therefore, of a tactical nature. They were setting conditions for tactical success.<sup>74</sup>

During the preparatory phase, Army commanders believed that the Air Force was not adequately supporting them. Frustrations came to a head on 18 February 1991. General Waller, the Army Central Command (ARCENT) Commanding General, stated in the situation report that the Army was “Unable to effectively shape the battlefield prior to initiation of the ground campaign.”<sup>75</sup>

The Air Force tried to satisfy Army requirements. Paradoxically, increasing allocations of sorties seemingly resulted in more requests from the Army. This problem came in part from the air tasking cycle not being of the same duration as the Army's briefing and decision cycle. General Schwarzkopf exacerbated the problem by changing the theater air priorities.<sup>76</sup>

Air interdiction enabled maneuver, but maneuver and operational fires did not always act in concert with each other. In fact, the opposite seemed to have happened. When ground maneuver gained a success, Army personnel complained that "frequently (that event) led to a loss of air support."<sup>77</sup> Using operational fires and maneuver in tandem implies that the two know what each other are doing. This did not seem to be the case in Desert Storm.

Air interdiction and maneuver became desynchronized near the Euphrates River, allowing many Iraqis to escape destruction. The *Air Force Joint Forces Air Component Commander (JFACC) Primer* states unequivocally that placement of the Fire Support Coordination Line during the final moments of Desert Storm "created a sanctuary for the Iraqi Republican Guard Forces escaping the Allied advance."<sup>78</sup>

Of course, results are what really matter in war. Air interdiction and operational maneuver were successful. They liberated Kuwait and destroyed a great deal of the Republican Guard. This is an incontrovertible fact about Desert Storm. Disagreements about the FSCL and how much air support one unit got versus the other should not matter much to anyone.

It should not matter because the Coalition won. The Iraqis are not in Kuwait. It would matter deeply if, during our efforts to expel the Iraqis, our de-synchronization and

failure to cooperate had caused us to lose. So the problem before us is a choice. We can continue to have divergent doctrines. This choice assumes that there will be enough air power for everyone and everything; all the time. Or, we can work to fix the doctrine. Army doctrine can support and integrate with the joint doctrine and that of the Air Force.

Strategic airlift into the theater of operations was crucial to the success of the Coalition. The Air Force performed the greatest airlift in history, flying during the peak period of Desert Storm, 17 million ton miles per day (MTM/day). This dwarfs the Berlin Airlift (1.7 MTM/day), makes the invasion of Panama (2 MTM/day) relatively easy and makes the effort to fly the “Hump” in Burma (.9 MTM/day) look insignificant.<sup>79</sup>

The intra-theater lift was also impressive. The U.S. Air Force flew an incredible total of 15,737 C-141 and C-130 sorties during the nine months of operations.<sup>80</sup> The ability to move the men and materiel represented by these sortie figures gave the JFC a great deal of agility.

The U.S. Army also conducted an impressive use of airlift in the Gulf War. It conducted the largest air assault operation in history. Army helicopters moved two brigades of the 101<sup>st</sup> Airborne Division (Air Assault) into forward operating base (FOB) Cobra. Cobra provided Army attack aviation a key base from which to operate deep into Iraqi territory.<sup>81</sup>

During the air assault to FOB Cobra, the Army stumbled across an old Air Force doctrinal lesson. That lesson was that centralized control of aviation assets with logistical redundancy allows for the flexible use of air power. During this critical operation, the 101<sup>st</sup> Airborne Division needed additional lift and attack assets. VII Corps could not lend support because the limited range of the helicopters. Also, the helicopters were tied to the

VII Corps' logistical basing. XVIII Corps eventually was able to assist, but only with helicopters, not the key logistical assets.<sup>82</sup>

Desert Storm, like Operation Diadem before it, proved to be a successful application of air power. Like Diadem too, Desert Storm depended on maneuver to finally eject the enemy from their positions. The successful integration of air power with maneuver proved to be the key.

## **Section 4. Analysis of a Disconnected Doctrine**

### ***Air Power Is More Than Fire Support.***

At the operational level, air power cannot always support maneuver. Air power can enable, support, or facilitate ground maneuver; but to categorically place it in support is to deny its capabilities. To make full use of air power, those who wish to benefit from it must understand it. By subordinating air power to fire support, the 1998 version of *Operations* takes a tactical view of air power. This view is inconsistent with the joint doctrine. The joint doctrine places the JFACC as an equal to the JFLCC. As stated before, there is nothing in the joint doctrine that compels the JFC to allocate his air power to support maneuver.

As the Air Force defines it, force application is what the 1998 version of *FM 100-5* is defining as air power. The force application role contains the missions of strategic attack, interdiction, and close air support. Planners of a strategic attack mission do not seek to support operational or tactical maneuver. They concern themselves with the operational and strategic level of war. Strategic attack seeks to attack war sustaining abilities or will to fight.<sup>83</sup> Interdiction and close air support can support operational and tactical maneuver.

Interdiction is a broad mission. As discussed in the Doctrine section, interdiction can have an operational or tactical purpose. When it has the operational purpose, it should work in tandem with operational maneuver in order to gain what the 1998 version of *FM 100-5* calls the asymmetric attack.

When interdiction works to a tactical purpose it tends to work as the draft *Operations* manual describes. In that case, it works as a subset of fire support, reinforcing Army fires. Note too, that the same field manual stresses getting complementary effects and asymmetric attack. The manual recognizes the three levels of war: strategic, operational, and tactical. Doctrine makes the distinction between levels because the activities at those levels tend to have a unique purpose at each level. This logic should push the Army to define air power as being different at the operational level and not necessarily supporting operational ground maneuver.

### ***Air Defense, Army Aviation And Air Power***

The 1998 version of *FM 100-5* has many of the same problems with Army supplied air power that it does with Air Force air power. The manual does not take a holistic approach to the nature of air power. Air Defense is a separate operating system instead of a component of airspace control. The manual lists Army aviation as a sub-set of maneuver along with Mounted and Dismounted. By lumping all aviation into maneuver, the manual diminishes the inherent versatility and flexibility of assault aviation.

Placing air power as a sub-set of fire support leads the Army audience in two directions that are wrong. First, air power includes more than just the missions defined in the force application role. Air power includes airspace control, force application, and airlift. Therefore, the Army should not limit its definition of air power to its own view of force application. Second, and more important, is that the Army fights in a joint environment. The JFC is not likely to employ air power in a subordinate role to Army ground maneuver. Soldiers should not enter the theater of war expecting that it will. As

currently defined, soldiers reading this manual will expect something the JFC is not likely to support.

### ***Air Defense as Defensive Counter Air***

As stated before, the air defense operating system and Air Force defensive counter air are really the same thing. Both missions seek to control the air space, protect the force, and facilitate future operations. Not recognizing air defense as a sub-set of aerospace control and further as a part of the larger set of air power clouds the role it plays on the battlefield.

Recognizing air defense as another method of controlling the air has an additional advantage. If air defense and aviation are viewed as components of a larger system, then there is a greater emphasis within the Army to coordinate use of the air space. While not a solution to airspace control problems, it is a step to prevent future fratricide incidents during crossings of front lines by Army and Air Force aviation.

### ***Army Aviation in the Force Application Role***

The writers of the new manual place aviation in maneuver because it is one of the arms that “close with and destroy the enemy.”<sup>84</sup> Army aviation closes with and destroys the enemy in exactly the same manner as the Air Force does when it is performing the air interdiction mission.

Army aviation, when it is performing a deep attack, could be viewed as performing battlefield air interdiction. That is, interdiction that supports ground maneuver. When air interdiction supports the close fight, as it often does, it could easily be understood to be performing a close air support mission, with the same effect as reinforcing artillery fires.

To maneuver, as defined as a principle of operations is to, "Place the enemy in a position of disadvantage through the flexible application of firepower."<sup>85</sup> Army aviation certainly does maneuver by that definition. Using this definition, bombers and multi-role fighters also maneuver.

The 1993 version of *FM 100-5* states, "Maneuver is the movement of combat forces to gain positional advantage..." when discussing it as an element of combat power or principle of war.<sup>86</sup> The Army's acceptance that aviation's movement qualifies as maneuver has always been tenuous. Aviation maneuver is fleeting as compared with the maneuver of traditional ground forces. This is because the positional advantage that aviation accrues is limited by the duration of the aircraft's time on station.

### ***Air Assault And Airlift***

The fact that Army aviation has a transportation function has not escaped the writers of the 1998 version of *FM 100-5*. It fits, again, under the heading of maneuver. To use a comparison the UH-60 helicopter performs the same basic function as an M-2 Bradley or an M-113 Armored Personnel Carrier. All carry infantrymen to the battlefield. More than just carrying them, the vehicles perform maneuver while getting them to where they need to go. Ostensibly that place is one of advantage in comparison with the enemy.

After the infantrymen get out of the helicopters, the similarity begins to become less apparent. After the helicopter is empty, it is free to perform logistics functions; such as evacuate wounded or carry supplies. Aviation does not maneuver at all in that case; it is now combat service support. This seems confusing: a helicopter is maneuvering one minute and literally providing combat service support the next. The UH-60, viewed as an

instrument of air power, with inherent flexibility is not confusing at all. The UH-60 in the example is identical in function (but not capability) to a C-130 air landed troops within a theater. The Air Force defines this role as force enhancement, a sub-set of air power.<sup>87</sup>

***Users Of Army Doctrine Must Be Prepared For The Joint Environment.***

The 1998 version of *FM 100-5* claims that the Army uniquely makes long term the effects of land operations. To perform that role, however, the Army must be a part of a joint team.<sup>88</sup> Doctrinally, the joint team is reliant on all the services making their unique contribution. The Army is also unique in that it depends on other services to control the sea and air for it to successfully perform its task.

Because soldiers are so reliant on the joint team, the Army must school them in joint doctrine as well as Army doctrine. Users of Army doctrine should be able to visualize their contribution to the whole, without interpretation by the Joint Staff. Additionally, the Army doctrine should reflect the best and most likely methods that the JFC will employ force. Army doctrine should be a guide to understand to how the other services will do their job as well. This will facilitate the formation of a joint team.

***Air And Ground Forces Must Act In Concert As Equals.***

The JFC plans and directs the campaign. The JFC uses both operational maneuver and fires to execute his campaign. The joint doctrine intends that the JFC be the principle warfighter in the theater. The Army cannot be in charge of allocating fires at the operational level. If the Army did, then the JFC would be merely a bridge between resources and war fighting. Allocation of fires is the JFC's job because it gives him additional flexibility to conduct his campaign at the operational level.

The Joint Targeting Board may plan and prioritize operational fires. Often the Joint Force Air Component Commander (JFACC) will execute the operational fires. The Army may or may not have input into how the JFC employs operational fires. Neither the Army Service Component Commander (ASCC) nor the Joint Land Component Commander (JFLCC) have the authority to direct operational fires.<sup>89</sup>

The JFC must have the freedom to direct his forces in pursuit of his campaign. To insist otherwise is to have the tail wag the dog. The JFC commands both the JFLCC and JFACC efforts. Joint doctrine specifically empowers the JFC to conduct the campaign as he sees fit.<sup>90</sup> This arrangement prevents duplication of effort and should ensure that each service will work to a common purpose.

There will be times that operational fires must support maneuver. Such a case is when ground forces are going to penetrate an enemy who has the capability to counter-attack with operational sized forces. The JFC may wish to fix enemy operational reserves in place with fires to allow ground maneuver to rupture the enemy defenses. The Allies used fires in support of maneuver in this manner during Operation Diadem. The result of Diadem was success which maneuver and fires acting alone had been unable to achieve. Using current doctrine, the JFC would select what operational reserves to attack as well as the place and time.

Another example of when the JFC could employ operational fires in support of maneuver is when the ground maneuver is expected to perform an operational maneuver in the enemy rear area. This is the type of maneuver that Tukhachevskii had in mind for his deep battle.<sup>91</sup> The Soviet Operational Maneuver Group attack into the NATO rear would fit into this category.<sup>92</sup>

There will be times that maneuver will support operational fires. The *JFACC Primer* cites an example of this when strategic attacks against the enemy's centers of gravity are the JFC's chief priority. In that case, operational maneuver might have to support or aid in the suppression of enemy air defenses (SEAD).<sup>93</sup>

Another example of operational maneuver supporting fires is when the JFC intends maneuver to cause the enemy to retrograde. In that case, the JFC might use operational fires to destroy the fleeing forces. The panicked Iraqi troops on the "Highway of Death" north of Kuwait City is an example of this.

It is the JFC's job to apply the forces at his disposal to best advantage. Army and Air Force doctrine agree; the asymmetric attack will confer advantage over the enemy. The JFACC and the JFLCC must cooperate as equals to achieve an asymmetric attack at the operational level. Each attack, in turn, supports the other in tandem; continuously placing the enemy in a dilemma for which there is no escape.

## **Section 5. Recommendations and Implications.**

### ***The Army Should Explain Its Contribution To The Joint Fight***

The 1976 version of *FM 100-5* explained how the Army viewed its role on the modern battlefield.<sup>94</sup> Although critics decried that version of *FM 100-5* as unnecessarily prescriptive, it did clarify roles of the services. That version also generated a lot of thought about Army and other service doctrine.<sup>95</sup> That thought about the importance of doctrine led the Air Force to re-think their approach to air power. It is time the Army did that as well.

First and foremost in our discussion of the joint and, therefore, the operational fight, our doctrine should describe how we intend to support the JFC. Approaching from this view point will ensure unity of effort. The Army should position itself intellectually to assist the JFC without needing to translate important concepts into "joint". "Joint" is not a foreign language. The Army should describe similar concepts in as like a manner to the other services as possible.

Because the Army is dependent on other services, we must also understand what we need and can expect from them. As discussed before, the Army does not run the joint fight. The JFC is in charge of the joint fight. However, if Army personnel understand the other services role in our fight, we will be better team members.

The Army is especially dependent on the Air Force to accomplish its missions. The 1998 version of *FM 100-5* only mention of air power is how it will assist the Army in the tactical battle. This approach is inadequate for two reasons. First it inadequately

defines air power. Second, and perhaps, more importantly, it does not describe what the Air Force is doing at the operational level.

### ***Army Air Power As An Operating System***

The Army should define air power in the same terms as the Air Force. Further, the Army should incorporate it into the doctrine as an operating system. The benefit of this approach is that the Army would have a tool to holistically analyze and employ air power. The purpose of having battlefield operating systems is to have a tool that analyzes events within the system and then to synchronize the overall effort. If the Army adopts air power as an operating system, then it has the means to analyze the entire system of aerial assets. That analysis should include airspace control, force application, and airlift. Not so coincidentally, those are the same areas that bedevil division staffs in their management of army airspace command and control (A2C2).

Recognizing air power enables the Army to treat air defense as what it is, performing a part in the total role of aerospace control. The joint doctrine integrates Army air defense with the JFACC as a part of the air space control effort. The Army should do this as well. This could also put to rest future disputes over the nature of theater missile defense and defense against air breathing systems.

By recognizing air power as an operating system, BAI and CAS could also become Army terms. This would free the aviation element to describe their contribution to Army operations more comprehensively. Aviation has difficulty fitting into the maneuver category because it does not act the same way as ground forces. Aviation does not perform a turning movement, envelope, or sit astride lines of communications the same

way that ground forces do. Duration limits aviation effects. The lasting effects that aviation has in an area of operations is a function of both time and weather. Unless provided a base, secured by ground forces, aviation cannot remain deep in an area of operations.

What aviation does well is described in the different aerospace roles defined in *AFM 1-1*. There is a strong force application component in Army attack aviation.

Arguably, the AH-64 is one of the finest BAI platforms in the world. It has always been a stretch to expect it to maneuver in the same way as a battalion of tanks and infantry.

Army aviation also has a logistic and mobility arm with its assault aviation. Defining this in the role of force enhancement is more comprehensive.

***Needed: A Framework For Operational Fires And Maneuver.***

*FM 100-5* should make a distinction between tactical fire support and operational fires. This distinction would assist reader to understand some of the underlying issues if the JFACC wishes ATACMS fires in support of an air oriented objective. Or, from a doctrinal standpoint, it would answer when close air support may or may not be appropriate.

At the operational level, this distinction will be in harmony with the concepts of asymmetric attack; thus putting the enemy in a dilemma as espoused in the 1998 *FM 100-5*. Making this distinction also would put the doctrine in harmony with itself at both the tactical and operational levels. As written, the 1998 *FM 100-5* does an excellent job showing how to achieve synergy from asymmetric attack at the tactical level. The manual

has an incomplete description of air power and no insight into operational fires. The manual leaves the reader to imagine how an asymmetric attack could occur at the operational level.

### ***Implications***

A better working relationship with other services will result from a more positive (and realistic) view from the Army of its sister services. In an era defined by declining budgets the Army could alleviate a lot of suspicion by coming to common agreement by using similar language. Specifically, the Army should adopt the same words the joint staff and the Air Force uses to describe air power. War fighting, especially at the joint level, is extremely complex. Coming to a common agreement about the nature of air power would do much to settle senseless arguments over joint doctrine.

Acknowledging a difference between operational fires and tactical fires could lead to a distinction at the joint level between BAI and AI. BAI is something the Army recognized in previous editions of *FM 100-5*. Recognizing the need for a type of AI that is generally important at the tactical level would give the JFC an additional tool to focus the JFACC's efforts.

Recognizing BAI as another category in the joint doctrine for apportionment is another step in the right direction. The purpose of having BAI as a separate category would give the JFC a tool to task the JFACC to provide interdiction support for the JFLCC. Remaining AI would remain the purview of the JFACC to target. If the JFC does not make BAI the priority, then it will surprise no one when the Army receives little interdiction support from the Air Force. This was exactly the case in Desert Storm with

respect to the senior Army commanders.<sup>96</sup> What was unfortunate about Desert Storm however, was the acrimony about whether the Air Force was doing their fair share for the Army. On the other hand, when BAI is appropriate, then it will be an easy way of alerting Army commanders that they will receive additional support from the JFACC.

If the Army takes a bold first step by adopting air power as a shared responsibility, it may start the other services moving in a common direction as well. The Air Force has followed the Army's lead before. The Army's lead has had a significant impact in joint doctrine before too. The concept of operations other than war was an Army idea, first discussed in the 1993 version of *FM 100-5*.<sup>97</sup>

With more cooperation and common definition, all of the services doctrine will become more useful. This may lead to important changes in joint doctrine, making it more useful in turn. This would be beneficial to both the services and the joint staffs in support of the JFC.

### ***Flexible Doctrine Makes For Agile Force***

Modern warfare is both increasingly lethal and dynamic. To achieve the synergy anticipated from asymmetric attack, the Army must be prepared to operate efficiently at the joint level. Expecting officers at this level to master Army, Air Force, and Joint doctrine may inhibit the agility necessary to achieve asymmetric attack.

The Army must prepare itself doctrinally to use fire and maneuver in tandem at the operational level. By making this concept doctrine in the Army, all involved on the Army side will expect it instead of suspect it when the time of execution comes.

## ***The Army Should Take The Lead***

The Army has a rich tradition of being doctrinal thinkers. General DePuy, writing the 1976 version of *FM 100-5*, was merely following in that tradition. DePuy wrote the 1976 manual in the post- Vietnam era.<sup>98</sup> In the post-cold war era, the Army finds itself getting smaller and simultaneously seeking its own relevance.

The Army must take the lead in the effort to define itself. Part of that definition should include air power. This approach will create greater understand both inside the Army and with other services.

The Army has relied on its doctrine to define itself in the past. The Army should continue to rely on doctrine in the future. The future will not be any better by not addressing key factors that allow the Army to get its job done. Defining air power, addressing Army and Air Force contributions at the joint level, and especially defining operational fires is a step in the right direction.

## End Notes

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<sup>1</sup> Department of the Air Force. *Air Force Manual 1-1, Basic Aerospace Doctrine of the United States Air Force, Vols I and II*, (Washington, D.C.: U.S. Government Printing Office, March 1992), Vol I, pp. 5 and 6.

<sup>2</sup> Department of the Navy, H.Q. U.S. Marine Corps. *Fleet Marine Field Manual 1-1, Campaigning*, (Washington D.C.: U.S. Government Printing Office, 25 January 1990), p. 62.

<sup>3</sup> Colonel John A. Warden, III, *The Air Campaign*, (Washington, D.C.: National Defense University Press, 1988), p. 13.

<sup>4</sup> *AFM, Vol. II*, pp. 185-9.

<sup>5</sup> Department of the Army, *FM 100-5 Operations*, (Washington, D.C.: U.S. Government Printing Office, June 1993), p. 2-19.

<sup>6</sup> Major Robert J. Hamilton, USAF, "Green and Blue in the Wild Blue", Masters Thesis, School of Advanced Airpower Studies, Air University, Maxwell AFB, AL, June 1993, p. 24.

<sup>7</sup> Thomas A. Keaney and Eliot A. Cohen, *Gulf War Air Power Summary Report*, (Washington, D.C.: U.S. Government Printing Office, 1993), pp. 154-5.

<sup>8</sup> Martin Blumenson, *Breakout and Pursuit*, The Official U.S. Army History, (Washington, D.C: U.S. Government Printing Office, 1961) pp. 235-6.

<sup>9</sup> *AFM 1-1, Vol. I*, p. 8.

<sup>10</sup> *AFM 1-1, Vol. II*, p. 113.

<sup>11</sup> Giulio Douhet, *The Command of the Air*, translated by Dino Ferrari, originally published: New York, Coward-McCann, 1942. (Washington, D.C.: Office of Air Force History, 1983). p. 105.

<sup>12</sup> Douhet, p. 55.

<sup>13</sup> Richard Hough and Denis Richards. *The Battle of Britain*, (New York: W.W. Norton and Co., 1989), p. 48.

<sup>14</sup> Hough, p. 51.

<sup>15</sup> Department of the Army, *FM 100-5, Operations*, (Washington, D.C.: U.S. Government Printing Office, 1 July 1976) pp. 2-21, 3-7, and 4-5.

<sup>16</sup> Tikhachevskii as quoted in Richard Simpkin. *Deep Battle: The Brainchild of Marshal Tikhachevskii*, (London: Brassey's Defence Publishers, 1987), p. 39.

<sup>17</sup> Tikhachevskii and G. Isserson, as quoted in Simpkin, p. 40.

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- <sup>18</sup> Tukhachevskii as quoted in Simpkin, p. 40. For more detail as to the actual conduct of the deep operation, see Simpkin, pp. 236 - 252.
- <sup>19</sup> Erich von Manstein, *Lost Victories*, translated and edited by Anthony G. Powell, originally published as *Verlorene Siege*, Bonn: Athenaum-Velag, 1955, (Novato, CA: Presido Press, 1985), pp. 438-440.
- <sup>20</sup> Department of the Army, *FM 100-5, Operations*, (Washington, D.C.: U.S. Government Printing Office, 20 August 1982), p. 2-2.
- <sup>21</sup> 1982 *FM 100-5*, p. 2-2.
- <sup>22</sup> Hamilton, p. 25.
- <sup>23</sup> Hamilton, p. 26.
- <sup>24</sup> General Donn A. Starry, USA, "Extending the Battlefield," *Military Review*, March 1981, Vol LXI, No 3, p. 37.
- <sup>25</sup> Hamilton, p. 30.
- <sup>26</sup> *AFM 1-1, Vol. II*, pp. 186-7.
- <sup>27</sup> Hamilton, p. 26.
- <sup>28</sup> *AFM 1-1, Vol. I*, p. v-vii.
- <sup>29</sup> 1982 *FM 100-5*, p. 2-2.
- <sup>30</sup> Department of Defense, *Joint Doctrine and Capstone Primer*, (Washington, D.C.: U.S. Government Printing Office, 25 May 1995), p. 2.
- <sup>31</sup> Department of Defense, *CJCSM 3500.04, Universal Joint Task List*, version 2.1, (Washington, D.C.: U.S. Government Printing Office, 15 May 1995), p. 2-83.
- <sup>32</sup> Department of Defense, the *Department of Defense Dictionary of Military and Associated Terms*, (Washington, D.C.: U.S. Government Printing Office, 23 March 1994).
- <sup>33</sup> Department of Defense, *Joint Pub 3-03, Doctrine For Joint Interdiction Operations*, (Washington, D.C.: U.S. Government Printing Office, 11 December 1990), p. II-2.
- <sup>34</sup> *Joint Pub 3-03*, p. II-1.
- <sup>35</sup> *Joint Pub 3-03*, p. IV-2.
- <sup>36</sup> Department of the Army, *FM 100-5, Operations*, (Washington, D.C.: U.S. Government Printing Office, 5 May 1986), p. 49.
- <sup>37</sup> Department of Defense, *Joint Pub 5-03.1/2, Joint Operations Planning and Execution System, Vols I (Joint Planning Policies and Procedures) and II (Supplement Planning Formats and Guidance)*, (Washington, D.C.: U.S. Government Printing Office, 4 August 1993), pp. P-5-3 (Vol. 1) and GL-2 (Vol. 2).

---

<sup>38</sup> Departments of the Army, Navy, and Air Force, *Multi-service Procedures for the Theater Air-Ground System FM 100-103-2/FMFRP 5-62/NDC TACNOTE 3-56.2/ACCP 50-54/PACAFP 50-54/USAFEP 50-54*, (Washington, D.C.: U.S. Government Printing Office, October 1994), p. 2. Hereafter cited as *TAGS*.

<sup>39</sup> *TAGS*, p. 13.

<sup>40</sup> Department of Defense, *Joint Pub 3-0, Doctrine for Joint Operations* (Washington, D.C.: U.S. Government Printing Office, 1 February 1995), p. III-25.

<sup>41</sup> *AFM 1-1, Vol. I*, p. 5.

<sup>42</sup> *AFM 1-1, Vol. I*, p. 6.

<sup>43</sup> *AFM 1-1, Vol. II*, p. 104.

<sup>44</sup> Department of the Army, HQ, U.S. Army Combined Arms Command and Fort Leavenworth, Coordinating Draft of *FM 100-5, Operations*, Scheduled for 1998, (Fort Leavenworth, KS: U.S. Army, 14 January 1997), p. II-5-8. Hereafter cited as 1998 *FM 100-5*.

<sup>45</sup> Department of Defense, *Joint Pub 3-52, Doctrine for Airspace Control in the Combat Zone*, (Washington, D.C.: U.S. Government Printing Office, 22 July 1995), p. vi.

<sup>46</sup> *AFM 1-1, Vol. I*, p. 7 and *Vol. II*, p. 116.

<sup>47</sup> *AFM 1-1, Vol. I*, pp. 12-3.

<sup>48</sup> *AFM 1-1, Vol. I*, pp. 5 and 8.

<sup>49</sup> 1998 *FM 100-5*, p. I-2-10.

<sup>50</sup> 1998 *FM 100-5*, p. I-2-10.

<sup>51</sup> *Joint Pub 3-0*, p. I-1 to I-2.

<sup>52</sup> 1998 *FM 100-5*, p. I-2-10.

<sup>53</sup> 1998 *FM 100-5*, p. II-1-4.

<sup>54</sup> 1998 *FM 100-5*, p. II-1-5.

<sup>55</sup> 1986 *FM 100-5, Operations*, p. 12.

<sup>56</sup> George S. Patton, Jr., *War As I Knew It*, annotated by Colonel Paul D. Harkins, originally published by Houghton Mifflin in 1947, (New York: Bantam Books, 1989) p. 380.

<sup>57</sup> 1998 *FM 100-5*, pp. II-1-3 to II-1-5.

<sup>58</sup> 1998 *FM 100-5*, p. II-5-1.

<sup>59</sup> 1998 *FM 100-5*, p. II-5-3.

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- <sup>60</sup> 1998 *FM 100-5*, p. II-5-6 to II-5-8.
- <sup>61</sup> 1998 *FM 100-5*, p. II-5-7.
- <sup>62</sup> Bob Woodward, *The Commanders*, (New York: Pocket Star Books, 1991), p. 365.
- <sup>63</sup> Price T. Bingham, "Ground Maneuver and Air Interdiction in the Operational Art," *Parameters*, March 1989, Vol XIX, No. 1, p. 19.
- <sup>64</sup> Albrecht Kesselring, *The Memoirs of Field Marshal Kesselring*, translated by William Kimber, Ltd., Originally published by Athenaeum, Bonn: 1953 under the title *Soldat bis zum letzten Tag*, (Navato, CA: Presido Press, 1989), p. 191.
- <sup>65</sup> Carlo D'Este, *Fatal Decision: Anzio and the Battle For Rome*, (New York: Harper Perennial, 1992), p. 24.
- <sup>66</sup> Bingham, p. 19 and Kesselring, pp. 192-202.
- <sup>67</sup> Joseph Bykofsky and Harold Larson, *The Transportation Corps: Operations Overseas*, The Official Army History, (Washington, D.C.: U.S. Government Printing Office, 1957), p. 227.
- <sup>68</sup> Keaney, pp. 35-7.
- <sup>69</sup> Keaney, pp. 39-41.
- <sup>70</sup> Keaney, p. 50.
- <sup>71</sup> Keaney, pp. 56-63.
- <sup>72</sup> Richard M. Swain, "*Lucky War*" *Third Army in Desert Storm*, (Fort Leavenworth, KS: U.S. Army Command and General Staff College Press, 1991), p. 177.
- <sup>73</sup> Keaney, pp. 88-90.
- <sup>74</sup> Keaney, pp. 49-53 and Swain, p. 181-3.
- <sup>75</sup> Swain, p. 189.
- <sup>76</sup> Swain, p. 187.
- <sup>77</sup> Swain, p. 228.
- <sup>78</sup> Department of the Air Force, *JFACC Primer*, 2d Edition, (Washington, D.C.: Deputy Chief of Staff, Plans and Operations, February 1994), p. 34.
- <sup>79</sup> Keaney, p. 186.
- <sup>80</sup> Keaney, p. 184.
- <sup>81</sup> Swain, pp. 228 - 9.
- <sup>82</sup> Swain, p. 228.

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- <sup>83</sup> *AFM 1-1, Vol I*, p. 6.
- <sup>84</sup> 1998 *FM 100-5*, p. II-5-3.
- <sup>85</sup> 1998 *FM 100-5*, p. II-2-3.
- <sup>86</sup> 1993 *FM 100-5*, pp. 2-4 and 2-10.
- <sup>87</sup> *AFM, Vol. I*, p. 6.
- <sup>88</sup> 1998 *FM 100-5*, p. I-2-10.
- <sup>89</sup> *Joint Pub 3.0*, pp. II-14 to II-15 and III-25.
- <sup>90</sup> *Joint Pub 3.0*, p. III-9.
- <sup>91</sup> Simpkin, p. 39.
- <sup>92</sup> Department of the Army, *FM 100-2-1, The Soviet Army, Operations and Tactics*, (Washington, D.C.: U.S. Government Printing Office, 16 July 1984), p. 4-9.
- <sup>93</sup> *JFACC Primer*, p. 15.
- <sup>94</sup> 1976 *FM 100-5*, pp. 1-2 to 1-5.
- <sup>95</sup> Paul H. Herbert, MAJ, USA, "Deciding What Has To Be Done," *Leavenworth Papers, Number 16*, (Fort Leavenworth, KS: U.S Army Command and General Staff College, July 1988), pp. 98-101 and Hamilton, pp 11 and 21. The fire storm of controversy that erupted from the 1976 version of *FM 100-5* largely marks the beginning doctrine having great importance in the Army and generated a great deal of thought in the Air Force. The Department of the Navy and the Joint Staff have recently begun to write what has been an Army priority since 1976.
- <sup>96</sup> Keaney, p. 155.
- <sup>97</sup> 1993 *FM 100-5*, p. 2-1.
- <sup>98</sup> Herbert, pp. 6-7.

## Bibliography

- Bingham, Price T. "Ground Maneuver and Air Interdiction in the Operational Art," *Parameters*. March 1989, Vol XIX, No. 1.
- Blumenson, Martin. *Breakout and Pursuit*. The Official U.S. Army History. Washington, D.C.: U.S. Government Printing Office, 1961.
- Bykofsky, Joseph and Harold Larson. *The Transportation Corps: Operations Overseas*. The Official U.S. Army History. Washington, D.C.: U.S. Government Printing Office, 1957.
- D'Este, Carlo. *Fatal Decision: Anzio and the Battle For Rome*. New York: Harper Perennial, 1992.
- Department of Defense. *Joint Pub 3-0, Doctrine for Joint Operations*. Washington, D.C.: U.S. Government Printing Office, 1 February 1995.
- Department of Defense. *Joint Pub 3-03 Doctrine For Joint Interdiction Operations*. Washington, D.C.: U.S. Government Printing Office, 11 December 1990.
- Department of Defense. *Joint Pub 3-52, Doctrine for Airspace Control in the Combat Zone*. Washington, D.C.: U.S. Government Printing Office, 22 July 1995.
- Department of Defense. *Joint Pub 5-03.1/2, Joint Operations Planning and Execution System, Vols. I (Joint Planning Policies and Procedures) and II (Supplement Planning Formats and Guidance)*. Washington, D.C.: U.S. Government Printing Office, 4 August 1993.
- \_\_\_\_\_. *CJCSM 3500.04, Universal Joint Task List*. Version 2.1, Washington, D.C.: U.S. Government Printing Office, 15 May 1995.
- \_\_\_\_\_. *Joint Doctrine and Capstone Primer*. Washington, D.C.: U.S. Government Printing Office, 25 May 1995.
- \_\_\_\_\_. *The Department of Defense Dictionary of Military and Associated Terms*. Washington, D.C.: U.S. Government Printing Office, 23 March 1994.

Department of the Air Force. *AFM 1-1, Basic Aerospace Doctrine of the United States Air Force, Vols. I and II*, Washington, D.C.: U.S. Government Printing Office, March 1992.

\_\_\_\_\_. *JFACC Primer*. 2d Edition. Washington, D.C.: Deputy Chief of Staff, Plans and Operations, February 1994.

Department of the Army. *FM 100-2-1, The Soviet Army, Operations and Tactics*. Washington, D.C.: U.S. Government Printing Office, 16 July 1984.

\_\_\_\_\_. HQ, U.S. Army Combined Arms Command and Fort Leavenworth. Coordinating Draft of *FM 100-5, Operations*, Scheduled for 1998. Fort Leavenworth, KS: U.S. Army, 14 January 1997.

\_\_\_\_\_. *FM 100-5 Operations*. Washington, D.C.: U.S. Government Printing Office, June 1993.

\_\_\_\_\_. *FM 100-5, Operations*. Washington, D.C.: U.S. Government Printing Office, 20 August 1982.

\_\_\_\_\_. *FM 100-5, Operations*. Washington, D.C.: U.S. Government Printing Office, 5 May 1986.

\_\_\_\_\_. *FM 100-5, Operations*. Washington, D.C.: U.S. Government Printing Office, 1 July 1976.

Departments of the Army, Navy, and Air Force, *Multi-service Procedures for the Theater Air-Ground System FM 100-103-2/FMFRP 5-62/NDC TACNOTE 3-56.2/ACCP 50-54/PACAFP 50-54/USAFEP 50-54*. Washington, D.C.: U.S. Government Printing Office, October 1994.

Department of the Navy, H.Q., U.S. Marine Corps. *Fleet Marine Field Manual 1-1, Campaigning*. Washington D.C.: U.S. Government Printing Office, 25 January 1990.

Douhet, Giulio. *The Command of the Air*. Translated by Dino Ferrari. Originally published: New York, Coward-McCann, 1942. Washington, D.C.: Office of Air Force History, 1983.

Hamilton, Robert J. Major, USAF. "Green and Blue in the Wild Blue". Masters Thesis, School of Advanced Airpower Studies. Maxwell AFB, AL: Air University, June 1993.

- Herbert, Paul H. MAJ, USA. "Deciding What Has To Be Done." *Leavenworth Papers, Number 16*. Fort Leavenworth, KS: U.S Army Command and General Staff College, July 1988.
- Hough, Richard and Denis Richards. *The Battle of Britain*. New York: W.W. Norton and Co., 1989.
- Keaney, Thomas A. and Eliot A. Cohen. *Gulf War Air Power Summary Report*, Washington, D.C.: U.S Government Printing Office, 1993.
- Kesselring, Albrecht. *The Memoirs of Field Marshal Kesselring*. Translated by William Kimber, Ltd. Originally published by Athenaeum, Bonn: 1953 under the title *Soldat bis zum letzten Tag*. Navato, CA: Presido Press, 1989.
- Manstein, Erich von. *Lost Victories*. Translated and edited by Anthony G. Powell. Originally published by Athenaeum, Bonn: 1953 under the title *Verlorene Siege*. Navato, CA: Presido Press, 1985.
- Patton, George S. Jr. *War As I Knew It*. Annotated by Colonel Paul D. Harkins. Originally published by Houghton Mifflin in 1947. New York: Bantam Books, 1989.
- Simpkin, Richard. *Deep Battle: The Brainchild of Marshal Tukhachevskii*. London: Brassey's Defence Publishers, 1987.
- Starry, Donn A, General, USA. "Extending the Battlefield." *Military Review*. March 1981, Vol LXI, No 3.
- Swain, Richard M. "*Lucky War*" *Third Army in Desert Storm*. Fort Leavenworth, KS: U.S. Army Command and General Staff College Press, 1991.
- Warden, John A. III, Colonel, USAF. *The Air Campaign*. Washington, D.C.: National Defense University Press, 1988.
- Woodward, Bob. *The Commanders*. New York: Pocket Star Books, 1991.