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When Clausewitz introduced the concept that an enemy's power is derived from his total means plus his will to resist, a debate has centered on which is more important, the enemy's military capability or his will. Air power theorists entered this debate and have long maintained that tactical and strategic aircraft alone have war winning capability because they can strike targets deep within a nation's interior. While trying to prove the primacy of air power, airmen have searched for targeting's "holy grail" – the critical node that will bring about the enemy's collapse. For many air power advocates, this target is the enemy's will to resist. History is littered with American and coalition bombing campaigns that have used a variety of methods to directly or indirectly target enemy will. For the most part, these campaigns have been relatively unsuccessful. The Air Force and Joint Forces Command have introduced a new concept that has put a new twist on this old theme. Effects-Based Operations (EBO) has been vigorously promoted by Air Force leadership as a methodology to attack strategic targets like enemy morale. Though cloaked in different terminology, EBO has the same limitations that conspired against previous air campaigns. This paper examines some of the critical issues affecting the ability to target enemy will from the air. By analyzing some of these weaknesses, Joint Force Commanders can apply combat aircraft in a more effective manner, vice using them as a sole means of achieving operational or theater strategic objectives.

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TARGETING ENEMY WILL FROM THE AIR: AN EFFECTS-BASED OPERATION IN FUTILITY

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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Abstract

When Clausewitz introduced the concept that an enemy's power is derived from his total means plus his will to resist, a debate has centered on which is more important, the enemy's military capability or his will. Air power theorists entered this debate and have long maintained that tactical and strategic aircraft alone have war winning capability because they can strike targets deep within a nation's interior. While trying to prove the primacy of air power, airmen have searched for targeting's "holy grail" – the critical node that will bring about the enemy's collapse. For many air power advocates, this target is the enemy's will to resist. History is littered with American and coalition bombing campaigns that have used a variety of methods to directly or indirectly target enemy will. For the most part, these campaigns have been relatively unsuccessful. The Air Force and Joint Forces Command have introduced a new concept that has put a new twist on this old theme. Effects-Based Operations (EBO) has been vigorously promoted by Air Force leadership as a methodology to attack strategic targets like enemy morale. Though cloaked in different terminology, EBO has the same limitations that conspired against previous air campaigns. This paper examines some of the critical issues affecting the ability to target enemy will from the air. By analyzing some of these weaknesses, Joint Force Commanders can apply combat aircraft in a more effective manner, vice using them as a sole means of achieving operational or theater strategic objectives.

Table of Contents

Introduction

Throughout the 20th century, air power has played a significant operational role in nearly every major American conflict. American war planners have relied on air power to coerce enemy regimes during limited wars or to shape the battle space and make it more favorable for follow-on ground assets in wars fought for unlimited aims.[1] Despite repeated successes enjoyed by air and surface forces operating in a joint environment, air power advocates have long maintained that tactical and strategic aircraft alone have war-winning capability. This shift from operational to strategic focus was manifested after World War II when an independent Air Force and its Strategic Air Command were formed. It continued to gain prominence in Operation DESERT STORM and Operation ALLIED FORCE where mostly tactical aircraft delivered decisive effects on enemy targets. As air theorist Colonel Phillip Meilinger says, "In essence, air power *is* targeting" (emphasis added).[2] While trying to prove the supremacy and efficacy of air power, airmen have searched for the "holy grail" of targets – that target which if properly struck will bring about the enemy's collapse. For many air power advocates, this panacea target is the will of the enemy to resist.[3] Despite claims from prominent air power theorists, the targeting of enemy will from the air has become a futile attempt to bypass operational art in order to achieve the all-important decisive, strategic effect long sought by airmen. Based on historical analysis, evolving air power theory and operational planning doctrine, and technological improvements in precision strike capabilities, the practice of American air forces specifically targeting the enemy's will is a waste of the operational factors of force and time.

When Carl von Clausewitz wrote *On War*, he introduced the concept that an enemy's power is derived from his total means as well as his will to resist.[4] Since that time, an ongoing debate has centered on which is more decisive, the enemy's military capability or his morale.[5] In

the Napoleonic era, the relationship between national will and physical capability was three to one.[6] Twentieth century warfare was decidedly different, however, relying significantly on the physical manifestations of the industrial age. It has become clear that at the dawn of the 21st century, the kinetic effects generated by these manifestations have equalized the ratio somewhat between military capability and national will.[7] Despite the emerging primacy of military capability in the 20th century, air power advocates have still focused on enemy will as a priority target. This emphasis stems from air power's ability to directly target enemy vital centers, a capability that most surface forces lack. Because Protocol I of the Geneva Conventions prohibits direct attacks on the civilian population "in all circumstances,"[8] U.S. air forces must rely on indirectly targeting the enemy's will through coercive attacks on infrastructure, leadership, organic essentials, etc. While efficient and decisive if successful, relying on this indirect cause and effect framework, however, produces inconclusive results if improper analysis and unintended, undesired consequences conspire against Joint Force Commanders.

This paper examines some of the critical issues affecting air power's ability to influence enemy morale. It examines the evolution of coercive air power theory and evaluates, in a historical context, the relative ineffectiveness of the application of this theory by theater commanders. Additionally, it addresses the challenges and limitations that face air power when targeting such an unpredictable strategic objective. By analyzing some of the weaknesses of the strategic application of combat air power, Joint Force Commanders may be better informed to apply combat aircraft in a more synergistic, joint method vice using air power as the sole means of achieving operational or theater strategic objectives.

Background – Evolution of Coercive Air Power Theory

Since World War I, air power enthusiasts have vigorously promoted the airplane's capability to deliver decisive effects at all levels of warfare. The vast destruction and loss of life in the European theater from 1914 to 1918 prompted prominent theorists to surmise that air power can deliver effects not only at the tactical level but also at the strategic level as well. Italian General Guilio Douhet was one of the first to recognize that because aircraft could fly over enemy forces, air power can directly strike enemy vital centers. Unlike land or sea forces, airmen could attack these targets without first defeating the fielded forces that defended and protected them. He surmised that one of the prime targets for air attack was enemy population centers. By bringing the horrors of warfare to the average citizen, "people themselves, driven by the instinct of self-preservation, would rise up and demand an end to the war…."[9] Paradoxically, General Douhet believed that this form of warfare was more humane. It would save lives by avoiding the bloody, prolonged stalemates that seemed to define the emerging industrial age of warfare.[10] Future wars would be quick, decisive conflicts because air power could strike at the very heart of the national will to fight.

In the United States, General Douhet's theories resonated with influential members of the Army Air Corps. General Billy Mitchell became a staunch advocate of air power and vigorously championed its strategic application.[11] Like Douhet, he promoted attacks on enemy population centers to weaken enemy morale. He also believed in the supremacy of air power and claimed that the offensive capabilities of armies and navies were obsolete. The air arm of the military alone could deliver the desired tactical, operational, and strategic objectives. General Mitchell's theories in the inter-war period influenced the Air Corps Tactical School (ACTS) established to formulate Army doctrine for the application of air power.[12] ACTS also advocated attacking the

morale of the enemy population, but they determined that indirect attacks were "more in keeping with our humanitarian ideals."[13] ACTS theorists concluded that attacks on national economic structure proved more effective than direct attacks on civilian population at undermining national will. Their "industrial web" theory viewed the enemy as an integrated system of production and commerce that supported both civilian and military infrastructure.[14] By attacking this system at the most critical bottleneck, air forces could simultaneously deliver effects to both the enemy war effort and the morale of the enemy civilian population. The combination of these effects would force the enemy to capitulate. This theory served as the basis for the American and British Combined Bomber Offensive in World War II and energized the debate over which is more critical to the war effort: the enemy's capability or his will to fight.

The period immediately after World War II witnessed the rise of strategic air power in the United States. The National Security Act of 1947 created the Air Force as a separate department from the Army and established Strategic Air Command. Despite this new found primacy, very little was done to advance theories on the uses of air power. Instead, Air Force leaders were content with relying on the nuclear capability displayed at the conclusion of World War II to deliver strategic effects. The limited nature of American warfare in the mid to late 20th century restricted the application of the Air Force's vision, creating the need for a new model.[15] In the late 1980s, Colonel John Warden diverged from the economic emphasis of previous air power theorists, and instead focused on the enemy's leadership. Like the faculty at ACTS, he also saw the enemy as a "system of systems," comparing it to the human body.[16] He likened the enemy leadership to the human brain. Like the enemy, the human body can exist without a functioning brain, but it ceases to be "a strategic entity," capable of functioning on its own and free "to make decisions as to where it will go and what it will do."[17] By attacking targets such as

command and control networks, Colonel Warden proposed that air forces can affect a form of "strategic paralysis" on the enemy leadership, inducing the command structure to make concessions or to make it incapable of leading not only the military effort, but also the efforts to "keep national morale at a sufficiently high level."[18] While he claimed that direct attacks on civilians were "morally reprehensible," he nevertheless included the enemy population as part of his "Five Rings Model" that defined the enemy system and advocated an indirect approach to enemy civilians as part of a parallel attack on this system.[19] Colonel Warden's theory served as the blueprint for the air campaign in the Persian Gulf War in 1991 and in subsequent conflicts involving American air power.

From World War I to present day, air power theory has evolved from its original tactical application to include operational and theater strategic relevance. The theories of Douhet, Mitchell, ACTS, and Warden have all focused on attacking enemy will either directly or indirectly. While skeptics argue that their writings serve more to further political objectives rather than military thought, their notions have established the basis for coercive air power theory that has been applied in nearly every air campaign from World War II to present day.

Analysis of Coercion

Robert Pape writes that "air power, initially a minor instrument, has become a more and more powerful coercive tool as the range and payload of aircraft have increased and weapons have become more accurate and more destructive."[20] Coercion in war encompasses Clausewitz's thesis of war as "an act of force to compel our enemy to do our will."[21] In this paper, coercive air power embodies bombing by combat aircraft to produce a change in the behavior of the enemy. The fear of destruction or further destruction as a result of a specific targeting process is designed to manipulate the enemy's cost and benefit analysis.[22] The heart of coercive air power

theory is to undermine the will of the people, the military or its leadership, either singly or in combination.

Air coercion first took shape in the punishment strategy derived from Douhet's and Mitchell's theory that air power should strike directly at population centers to fracture the people's morale or to provoke an uprising against the government. Douhet and Mitchell based their findings on the German zeppelin and Gotha bombing campaign over England during World War I. While the initial raids instilled a level of fear and panic on citizens of London, the bombing campaign was largely ineffective due to operational and technological difficulties of employing these aircraft. In fact, Germany abandoned this campaign after only 27 total missions due to aircraft losses.[23] This form of coercion, therefore, was borne out of largely incomplete data and from a campaign that was not decisive. Clearly, Douhet's approach requires the capacity to attack the enemy with a survivable platform that can inflict massive and terrifying force.[24] Technological advancements greatly improved the range, payload, and navigation systems of aircraft at the onset of World War II. The Casablanca Directive, which outlined the Combined Bomber Offensive, called for the "progressive destruction and dislocation of the German military, industrial, and economic system, as well as the undermining of the German people's morale."[25] Purposely ambiguous, this decree gave British and American operational commanders great latitude to interpret what they wished. While the British favored nighttime area bombing, making no pretense to avoid civilian death and destruction, American air commanders preferred daytime, "precision" attacks on economic and industrial infrastructure. The ensuing disagreements in both targets and tactics highlighted the differences in philosophy of the two air forces, but masked the similarities in effect each wished to impose on German morale. Ultimately, the American precision attacks were not precise at all and resulted in

significant collateral damage. By September 1944, the Eighth Air Force began area bombing Berlin.[26] By nearly all accounts, direct and indirect attacks on German population centers failed to achieve the desired collapse of German morale or a popular uprising against Hitler. The same could be said for the strategic air campaign against Japan. Despite the bombing of over 65 of their cities and the killing of 330,000 of their citizens, the majority of Japanese still supported Emperor Hirohito and a continuation of the war.[27]

Undoubtedly, the Combined Bomber Offensive and its Pacific counterpart precipitated much of the current conventions for protection of the civilian population in wartime making Douhet's theories obsolete for application today. Even so, the lackluster results of direct terror bombing in World War II, unrestrained within a total war context, speaks volumes about the immunity of enemy will when targeted solely from the air. Indirectly targeting the population proved to be ineffective as well. The bombing campaign conducted against the German economic and industrial infrastructure to disrupt or damage the populace's living conditions and their production efforts did little to erode their will to resist. Some accounts even show worker production increasing in Germany despite these efforts. The effectiveness of the air operations against German economic infrastructure was manifested in the affects on the German war machine, not on its impact on the population. The dearth of petroleum, oil, and lubricants as a result of attacks on German refineries, production facilities, and transport systems contributed significantly to the erosion of German military might on both the eastern and western fronts.[28] These interdiction attacks on the German military over time were as effective, and in some cases ultimately more effective, than direct attacks on German fielded forces.

After World War II, the total war construct gave way to more limited conflicts and the indirect targeting of enemy morale continued though more restrained in this limited context.

American operational planners surmised that by using more restrained bombing during the initial phase of a conflict, they could gradually escalate the use of force over time, leveraging the fear of future damage or the threat of damage to discourage resistance, ensure compliance, or deter. Termed risk coercion, this type of air operation seeks to undermine enemy morale by holding what the enemy values at risk.[29] Largely based on punishment coercion, it differs by using the minimum force necessary initially, rather than wholesale bombing of the enemy. It is "simply a gradual, escalating punishment strategy in which the coercer seeks to instill great fear of future civilian punishment without actually having to inflict extensive damage."[30] Like the punishment air campaigns of World War II, risk campaigns have also been largely ineffective at defeating enemy will. Operation ROLLING THUNDER, the initial bombing campaign against North Vietnam, embodied risk coercive theory and failed to reduce North Vietnam's government from physically supporting the Viet Cong. The bombing campaign also emboldened the people to provide continued moral support to their communist brethren in South Vietnam.

The disastrous results in Vietnam forced a renewed focus on coercive theory, with a new twist. Instead of civilian or economic infrastructure, the focus of bombing operations became enemy leadership. Recent history has shown that Joint Force Air Component Commanders (JFACCs) have recently eschewed employing air power against enemy infrastructure and military forces and have preferred to target leadership infrastructure to compel enemy regimes. Known as decapitation, this operational construct has been used in every major operation over the last 15 years from Operation DESERT STORM to Operation IRAQI FREEDOM. The roots of decapitation lay in Warden's theories that leadership is the most critical node in the enemy's system and ability to wage war. While effective at cutting off military forces from their command and control, its coercive effect on enemy will, outside the military ramifications, has

been difficult to determine. During the overwhelming successes enjoyed by the U.S. military since 1991, air power has been significant and, in some cases, decisive. Its impact in the battle space, however, has been its effect on the enemy military not necessarily on the results of directly targeting enemy leadership. Air power failed to get Saddam Hussein in 1991 and 2003. It failed to get the majority of Taliban and Al Qaeda leaders in Afghanistan in 2001. It also failed to prevent Slobodan Milosevic from killing and expelling nearly one million ethnic Albanians from Kosovo, even after three days worth of dedicated air strikes on leadership targets in and around Belgrade in 1999.[31] A significant flaw with decapitation as a coercive strategy is that its success depends on enemy leadership to act rationally. America's most recent foes have been anything but rational. Each of these operational examples of recent air campaigns were successful not because they affected the enemy will of the population or leadership, but because they effectively denied the enemy's *capability* to resist.

Denial air operations lie at the opposite end of the coercive spectrum from punishment campaigns.[32] It concentrates air assets on enemy forces, weakening their power and capacity to wage war. Friendly forces, therefore, are freer to achieve objectives without incurring unacceptable losses. From a coercive perspective, without an effective military means to resist, self-preservation forces the adversary to capitulate. According to Pape, denial air operations "target the opponent's military ability to achieve its…political objectives, thereby compelling concessions in order to avoid futile expenditure of further resources."[33] Because coercive campaigns rarely work, denial air operations have the added benefit of graceful degradation.[34] Since the targets in denial coercion are the same as those designed to destroy the enemy's capability to resist, when coercive attempts fail, the air campaign is not wasted.[35]

Effects-Based Operations: A New Concept or Old Ideas Cloaked in New Terminology?

Because air planners understand that due to political or fiscal constraints, they will not have an unlimited number of assets at their disposal, they have sought to achieve maximum effect with fewer resources to fulfill strategic and operational objectives.[36] The resulting concept that has emerged over the last decade is effects-based operations (EBO). EBO is defined by U.S. Joint Forces Command as "a set of actions planned, executed, and assessed with a systems perspective that considers the effects needed to achieve policy aims via the integrated application of various instruments of power."[37] Since EBO forces operators to look at the enemy and plan operations through a systems-based prism, it is clear that its origins are rooted in the theories of ACTS, Warden, and proponents of the strategic nature of air power.[38] EBO proponents consider the success of any military action in terms of how it directly furthers political objectives: "EBO is the vertical glue that ties actions to strategic outcomes."[39] Disillusioned with attrition-based metrics and the ineffectual application of Vietnam era air power, Air Force strategists proposed EBO "to minimize the potential for wasted or counterproductive efforts, thereby supporting concepts of both unity of effort and economy of force."[40]

While Joint Forces Command and the Air Force stress EBO across the joint spectrum, it is clear from EBO's origins and its emphasis on strategic effects that the construct relies heavily on air power. Brigadier General David Deptula, a protégé of John Warden and the person most consider the modern architect of EBO, says "the tenets of EBO certainly apply to every medium of warfare, but the speed, range, lethality, and overarching perspective of air and space power make EBO uniquely suited to Airmen."[41] EBO relies on technology to deliver, predict and measure desired effects. By relying on a systems-based analysis of the enemy and on mathematical models for predicting and measuring success, it seems well suited to denial-based

air power operations. Brigadier General Deptula points out, however, that EBO requires "tools to anticipate both physical and *cognitive* effects of particular courses of action. Physical effects present a more lucrative near-term target, but *cognitive* effects may offer the larger payoff" (emphasis added).[42] Clearly, the will of the enemy is the cognitive effect. EBO, therefore, ultimately seeks to target enemy morale much the same way early air power theorists did – by bypassing the enemy forces that protect their centers of gravity and strategically *affecting* these vital centers themselves. Critics of EBO lament this "tacticization" of strategy, where it appears that the entire operational level of warfare is omitted from its construct.

One of the fundamental weaknesses of EBO and its impact on enemy morale centers on its reliance on intelligence and analytical tools to conduct the appropriate analysis of the enemy system. EBO borrows from Warden and views the enemy as a "system of systems" and within this framework, the enemy system is evaluated by using node-link analysis. The nodes are the physical elements within a system that can be targeted whereas the links are the "behavioral and functional relationships between nodes, establishing interconnectivity between them."[43] These relationships between nodes and links give the system its structure. The key for EBO analysts is to target the critical node(s) that will most likely produce the desired systemic effect. Because aircraft can strike vital centers deep within enemy territory, air planners must know the precise location and function of these targets. The physical first-order effects of striking these targets are normally relatively easy to determine. Determining and measuring the follow-on second, third and fourth order physical effects are much more challenging. Predicting the same follow-on *cognitive* effects on enemy leadership, military commanders, and the population is even more difficult. As Milan Vego points out, one cannot "precisely anticipate the psychological effect on the enemy's will to fight or the attitude of the populace when the enemy's culture is different

from one's own, as seen in Afghanistan and in the post-combat phase of the war in Iraq."[44] Today's air warfare, therefore, requires a new type of intelligence and level of predictability in planning military operations that is not realistic or achievable. Marine Corps Lieutenant General James Mattis summed it up best when he declared, "When you enter into the areas where human beings – with their willpower, their imagination, their courage, their fears, their cultural tendencies – all come to bear, the idea that you can put an algebraic equals sign between something you do and the response that you are going to get is not born out by the last 5,000 years of human interactions on this planet."[45]

Yet another critical vulnerability in intelligence and analysis integral to the effects based approach to air warfare lies in the imperfect nature of intelligence itself. Intelligence agencies form a major piece of the targeting puzzle and provide vital information to air campaign planners to achieve the first order physical effects. They determine the location, type, physical make-up, material condition, and protection of a target that aids planners to match aircraft and weapon in order to achieve mission success. Despite the advances in surveillance and reconnaissance technology, air targeting experts still get it wrong. Recent history is replete with examples of mistakes made in the physical targeting process. The bombing of the Chinese embassy in Serbia, the Al Firdos bunker in Iraq, and the pharmaceutical plant in Sudan are but a few examples of how intelligence either missed key components of the enemy's use of a target or misidentified the target entirely. If intelligence cannot correctly identify targets to achieve first order, desired effects, then they cannot be expected to predict the follow-on effects with a high degree of certainty required by EBO's construct.

Undesired Effects – the Achilles Heel of EBO

The American way of war has long been focused on the reliance on technology. This is especially true with respect to air and space power. Recent acquisition and operational trends have shown an American desire to rely on fewer aircraft with more capability to achieve objectives across the spectrum of warfare. This decrease in number and types of aircraft is offset, in theory, by the advent of precision weapons technology. Precision weapons give the effect of the principle of mass by concentrating operational fires at decisive points. Currently, 70-80 percent of guided weapons hit within 10 meters of their desired point of impact. This is in stark contrast to World War II era bombing where only 18 percent of American bombs fell within 1000 feet of their target.[46] Consequently, in World War II, it took hundreds of bombs to deliver the same effect as one precision weapon. Unlike Operation DESERT STORM, where only 20 percent of American aircraft were capable of guiding "smart" weapons, nearly all tactical and strategic bombers now possess the capability to autonomously execute precision strike.[47] As a result, precision guided munitions accounted for 70 percent of all ordnance delivered in Operation ENDURING FREEDOM and Operation IRAQI FREEDOM.[48] This figure represents a dramatic increase from the first Gulf War where guided weapons represented less than ten percent of all ordnance delivered.[49] While precision weapons have reduced collateral damage and increased accuracy, it has also dramatically increased overall expectations of American air combat power. At times, these expectations are unrealistic. American air forces are expected to perform immaculately, with precision and positive effect.[50] When undesired, direct effects occur during a bombing campaign, such as the bombing of the Chinese Embassy or the Al Firdos bunker, the negative consequences are magnified. For the past 15 years, the American and foreign public have grown accustomed to seeing sensor footage of American

precision bombs accurately hitting their targets. Now, when a bomb goes astray or naturally causes indirect collateral damage and death, the impact on enemy will is not resignation. Rather, the more common reaction is indignation, contempt, and increased resolve. While technology has seemingly enabled American air power to act more strategically, it has also amplified the negative strategic effects as well. Like analyst Andrew Krepinevich states, "[T]he maturation of the U.S. military's precision strike capabilities threatens to make…strike aircraft a victim of their own success."[51]

Recommendations

The purpose of the previous analysis of coercive air campaigns and the cognitive emphasis of EBO is not meant to imply that enemy will is unimportant. It is a significant piece of the overall enemy puzzle. Joint Force Commanders ignore enemy will at great risk to mission success. They also accept great risk when relying on air power to defeat the morale side of the enemy equation. Coercive air power advocates make the common mistake of underestimating the resilient nature of most human societies. They assume that the enemy leadership and populace are fragile and can be easily overwhelmed by a bombing campaign. In fact these enemy "systems" have a tremendous capacity to adapt.[52] This is especially true in today's societies where dedicated resistance among relatively few terrorist or insurgent groups have significant impact. The problem of targeting enemy morale, especially within the EBO framework, is that it demands a quick result, despite the fact that it relies on indirect effects beyond the first order. Quick and decisive are, after all, fundamental tenets of the American way of war. By contrast, irregular warfare, exemplified by Mao Tse-tung and others, is content with a slow methodical erosion of enemy will. If American observation of or involvement in successful wars of national liberation since the 1950s has revealed anything, it is that defeating

national and political will takes time. American air forces try to hasten this process through violent acts of physical destruction, yet these acts do not necessarily correlate to capitulation and can be counterproductive.[53] The "shock and awe" of an American air campaign does not necessarily lead the enemy population to greet American forces as liberators. Joint Force Air Component Commanders, therefore, need to focus more on the physical nature of EBO vice the cognitive effects.

While precision weapons technology does help mitigate undesired effects, it does not completely eliminate them.[54] Fog and uncertainty in warfare still exist despite the myriad of technological advances. Precision weapons have demonstrated a greater effect in revolutionizing modern warfare at the operational level than at the strategic. Since 1991, it has been most effective as a supporting element and enabler of surface forces – "serving as the hammer to ground power's anvil."[55] Increased bombing accuracy and effects have enabled American ground power to defeat the enemy ground forces more efficiently.[56] This is not meant to imply that air forces should be tied directly to American surface forces. Not only can air power perform close air support, armed reconnaissance and other counter land missions more effectively, it can successfully perform the vital air interdiction missions beyond the forward edge of the battle area that significantly degrade enemy capability. Attacks on leadership targets within this construct have their place as well. Bombing key command and control centers cuts enemy military forces off from their leaders, further reducing the coordination and synergistic efforts of the enemy's military capability. These operations should be accomplished in parallel to maximize effect. The bottom line is that EBO and the emphasis on physical effects have more compatibility at the operational level of war than at the strategic level, especially when operating in a joint environment.

Since the 1930s, Air Force doctrine has included civilian morale as a justifiable target.[57] Current doctrine states that "the ultimate objective in war is defeat of an enemy's will" and cautions air planners to not lose sight of the fact that air power "offers the prospect of much more directly affecting the enemy's will by acting upon the psychology of the enemy leadership, by changing the political climate the leadership works within, or by denying the leadership strategic choices and options."[58] Undoubtedly, enemy will is important, but as Colonel Meilinger correctly points out, "a thing that is valuable is not necessarily targetable" from the air.[59] Enemy morale should be targeted directly via information operations, psychological operations and other methods rather than indirectly by way of the physical destruction from an air bombing campaign. Joint air operations should focus on parallel attacks on targets that have first or second order effects on military capability. Denial bombing with precision weapons offers the best combination of maximizing desired effects while minimizing unintended consequences.

Conclusion

History is littered with American and coalition bombing campaigns that have used a variety of methods to directly or indirectly target enemy will. For the most part, these campaigns have been relatively unsuccessful. The Air Force and Joint Forces Command have introduced a new concept that has put a new twist on this old theme. EBO has been vigorously promoted by Air Force leadership as a methodology to attack strategic targets like enemy morale. Though cloaked in different terminology, EBO has the same limitations that conspired against previous air campaigns. This paper examined some of the critical issues affecting the ability to target enemy will from the air. By analyzing some of these weaknesses, Joint Force Commanders can apply combat aircraft in a more productive manner, vice using them as a sole means of achieving operational or theater strategic objectives.

NOTES

[1] Limited and unlimited wars in this context refer to the political aims that justify the conflict. Unlimited wars are those fought to affect regime change whereas limited wars are those fought for less ambitious aims such as territory or to maintain the status quo. This is meant to distinguish from wars fought with limited or unlimited means.
[2] Phillip S. Meilinger, "Ten Propositions Regarding Airpower," Airpower Journal, Spring 1996, 58
[3] Karl Mueller, "The Essence of Coercive Air Power: A Primer for Military Strategists," Air and Space Power Journal – Chronicles Online Journal, 17 September 2001.
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[4] Daniel E. Liddell, "Operational Art and the Influence of Will," Marine Corps Gazette 82, no.2, (February 1998): 50
[5] Phillip S. Meilinger, "Air Strategy: Targeting for Effect," Airpower Journal 13, no. 4, (Winter 1999): 56
[6] John A. Warden, "The Enemy as a System," Airpower Journal, (Spring 1995)
<http://www.airpower.maxwell.af.mil/airchronicles/apj/warden.html> [15 September 2006]
[7] Warden
[8] Kenneth R. Rizer, "Bombing Dual-Use Targets: Legal, Ethical, and Doctrinal Perspectives," Air & Space Power Journal – Chronicles Online Journal, 1 May 2001.
<http://www.airpower.maxwell.af.mil/airchronicles/cc/Rizer.html> [15 September 2006]
[9] Giulio Douhet, The Command of the Air (Washington D.C.: Office of Air Force History 1983), 58
[10] Phillip S. Meilinger, "Air Strategy: Targeting for Effect," 49
[11] Rizer
[12] Phillip S. Meilinger, "Air Strategy: Targeting for Effect," 52
[13] Rizer
[14] Phillip S. Meilinger, "Air Strategy: Targeting for Effect," 52
[15] Rizer
[16] Warden
[17] Warden
[18] Warden
[19] Warden. Colonel Warden pictured the enemy state as a series of five concentric rings with the most important, leadership, as the strategic bull's-eye. The second innermost ring includes organic essentials such as energy and economic sources. This ring is followed by infrastructure such as roads, airfields, and factories. The final two rings consist of the population and military forces.
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