Precision Firepower:
SMART BOMBS, *DUMB* STRATEGY

You may fly over a land forever; you may bomb it, atomize it, pulverize it and wipe it clean of life—but if you desire to defend it, to protect it, and keep it for civilization, you must do this on the ground, the way the Roman legions did, by putting your young men into the mud.

—T.R. Fehrenbach[1]

EVER SINCE DAVID slew Goliath with a stone from his slingshot, every combatant's desire has been to defeat his enemy from afar. Since the Industrial Revolution the question has been asked, "Why send a soldier when a bullet will do?" The natural desire is to limit the need to go face-to-face with one's enemy and hence to avoid the enemy's counterblows. In 1999, historian John Keegan said, "Now there is a new turning point to fix on the calendar: June 3, 1999, when the capitulation of President Milosevic proved that a war can be won by airpower alone."[2] First muskets, then artillery, and now bombs and missiles have almost eliminated the Homeric clash of heroes.

In the 21st-century Information Age, the preference for firepower delivered by air and supported from space has reached new heights. Weapons are now so accurate that we describe them as precision-guided munitions (PGMs), "smart," or even "brilliant" bombs. Unguided projectiles are merely "dumb" bombs. The United States, using intelligence and precision weapons, can destroy almost anything, anywhere, any time. Theorists have advanced a number of schools of thought concerning what this capability means to military strategy. Although these concepts differ on particular issues, they stem from a common belief that precision weapons offer a new way of accomplishing military strategy.

In his history of air operations in the Persian Gulf war, U.S. Air Force (USAF) historian Richard P. Hallion triumphantly concludes, "Simply stated, airpower won the Gulf war. In the airpower era, neither armies nor navies can be considered the primary instrument of securing victory in war."[3] Clearly, some theorists see that, more often than not, land or naval forces should support aerospace power as the preeminent military arm. This is a dramatic reversal of traditional roles.[4]

John A. Warden, an early advocate of precision firepower, sees enemy systems as five interconnecting rings that precisely targeted air strikes could destroy.[5] Air strikes could "reduce capability . . . , degrade effectiveness, [and like a living organism, make enemy systems] susceptible to the infectious ideas we want to become part of it."[6] Warden says that the advent of PGMs makes it possible to separate an enemy's military strength from his willpower, destroying the former and rendering the latter irrelevant.

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The U.S. Air Force coined the phrase "global reach, global power" to describe its ability to deliver firepower with great precision anywhere in the world on short notice. USAF doctrine defines precision engagement as "the ability . . . to cause discriminate strategic, operational, or tactical effects."[7] Precision engagement also "creates the opportunity for a different approach to harnessing military power to policy objectives."[8] Precision weapons enable the concept of "strategic attack," a term that describes "operations intended to directly achieve strategic effects . . . and to achieve their objectives without first

having to necessarily engage the adversary's fielded military forces in extended operations at the operational and tactical levels of war."[9] Recent strategists use the term "effects-based operations" (EBO).

EBO advocates believe technological advances make it possible "for air attacks to create physical and psychological effects that combine to quickly prevent a fielded land force from functioning well enough to achieve its desired objectives."[10] In the apparent race to embrace the Information Age, strategists at the U.S. Joint Forces Command are using the term "rapid decisive operations" (RDO) to describe a new concept of war. RDO combines effects-based operations "with superior knowledge and command and control capabilities" to render an enemy incoherent, thereby forcing him to "cease actions that are against U.S. interests or have his capabilities defeated."[11]

B.H. Liddell-Hart's definition of military strategy is, "The art of distributing and applying military means to fulfill the ends of policy."[12] I use the term "precision firepower" to describe the theory that firepower, usually delivered from the air with great accuracy against a discrete set of targets, can lead directly to the defeat of the enemy and to the attainment of U.S. policy objectives.[13]

The thread of continuity between the various strains of thought is that precision firepower will revolutionize military strategy, not just tactics and operations. The belief is that armies will be able to quickly achieve policy objectives, and wars will be won that will have low casualties and collateral damage and will use few, if any, ground forces. Precision firepower is sometimes said to blur the distinctions between the tactical, operational, and strategic levels of war. This blurring encourages thinkers to equate the ability to destroy something with the purpose behind destroying it—to equate the means and ways of strategy with its ends. This is indeed a breathtaking theory, and it offers a revolutionary route to victory in war. If only it were so.

The Theory in Practice

Military theorists have historically overestimated firepower's effectiveness. Precision firepower might be tactically and operationally decisive when the military aim is negative, in the sense of punishing an enemy for taking certain action or in denying him certain military options, but no matter how precisely firepower is delivered, it cannot be strategically decisive, for short of a Carthaginian peace or an Armageddon, the policy ends of war require something more than annihilation. Without a fundamental, long-term change in the enemy's behavior, the victor is forced to continually parry the enemy's operations so long as the enemy sees fit to test the victor's means and resolve. Precision firepower might make the job of ground forces immensely easier and less costly, but in the end the victor must confront the vanquished face-to-face to lay claim to the victory.

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A number of technical, tactical, and political factors have bedeviled the real-world application of precision firepower since its birth. The following paragraphs briefly review the factors' limitations.

Technical limitations. As with any weapon system, there are technical limits to precision firepower's effectiveness. Bad weather can obscure the target area and distort the laser beams that guide weapons to their targets. Guidance systems can fail and send bombs off target, perhaps into civilian areas. Coordinating the reconnaissance, intelligence-collection, and targeting processes is extremely complex and not foolproof. Jungle, mountain, and urban terrain makes targeting fiendishly difficult, even with ground spotters. Also, simple mechanical reliability is never perfect.[14] The PGMs' accuracy has improved by orders of magnitude since their introduction late in the Vietnam war; nevertheless, precision weapons' real-world accuracy is never quite up to the advertised level.

Monetary limitations. Even with a much-increased budget for defense, the prosaic issues of cost, production, and logistics can combine to limit the availability of precision strike weapons. PGMs are expensive, time-consuming to produce, and are expended rapidly. In one admittedly extreme case in Afghanistan, an F16 fighter-bomber and a B2 stealth bomber used several 500-pound bombs, several cluster munitions, and sixteen 2,000-pound bombs to attack one Toyota pickup truck containing 15 suspected Taliban fighters.[15]

Political considerations. Political considerations have often limited the effectiveness of airpower at the strategic level of war. From reluctance to indiscriminately bomb civilian targets in World War II,

Viet Cong and North Vietnamese officers at at prisoner exchange near Loc Ninh, Vietnam, 12 February 1973.

US Army

[One] point, which we often forget is that the enemy has a vote in determining the effectiveness of precision firepower theory. . . . The enemy can usually find the means to avoid, absorb, wait out, or defeat the attack of firepower. In a survey of post-World War II conflicts, military historian Robert H. Scales, Jr., concludes, "To be sure, firepower can be paralytic in its effect. But paralytic effects by fire are always fleeting."

to the fear of nuclear war with China and Russia in Korea, to détente-imposed restrictions on North Vietnamese targets, to the reluctance of some NATO nations to sanction the bombing of dual-use targets in Serbia, the U.S. has often felt the need to limit the application of its immense technological superiority when using firepower at the strategic level of war. The particular reasons are different, as are the wars, but an irrefutable pattern emerges from the historical record.[16] The usual response of firepower advocates has been that in the next war, using better technology unshackled from political limitations, firepower will deliver on its strategic promise. But the political object of the war will always limit the utility of firepower, no matter how precisely applied.

Enemy considerations. Another point, which we often forget is that the enemy has a vote in determining the effectiveness of precision firepower theory. As Prussian military theorist Carl von Clausewitz reminds us, "War is a contest against an animate force that resists our efforts at every turn."[17] The enemy can usually find the means to avoid, absorb, wait out, or defeat the attack of firepower. In a survey of post-World War II conflicts, military historian Robert H. Scales, Jr., concludes, "To be sure, firepower can be paralytic in its effect. But paralytic effects by fire are always fleeting. Armies have shown time and again that they can become inured to the paralytic effects of firepower and can even learn creative ways to lessen its destructive effects."[18]

Current experience in Afghanistan suggests that the effects of precision firepower are limited even against a primitive foe. U.S. air strikes did not become effective until late November 2001 when they were directed by U.S. Special Forces troops in direct support of Northern Alliance ground forces assaulting Taliban positions.[19] And, as the battles of Tora Bora and the Shah-i-khot Valley indicate, reliance on Afghan surrogates for ground forces comes with its own set of limitations and disappointing results, as intended targets were often allowed to escape. In his recently published study, Stephen Biddle convincingly relates how quickly and effectively Taliban and al-Qaeda forces were able to outsmart, avoid, and adapt to U.S. precision firepower.[20]

Precision firepower also assumes a number of things are knowable about the enemy when often they are not. EBO advocates offer policymakers a menu of desired effects to impose on an enemy. EBO advocates incorrectly assume the United States can accurately determine what assets an enemy values most and attack them. In this sense, precision firepower is a tool for believers in gradualism, escalation, and punishment game theory. Precision firepower advocates can fall prey to the fallacy of mirror-imaging—the belief that the enemy will respond to our actions in ways we ourselves would respond. Of course, the destructive physical effects airpower delivers might or might not affect the enemy the way we anticipate. Even if we could reduce the enemy to a system of systems and target the enemy with great precision, all but the most primitive, incompetent enemies will react and adapt.[21] Precision firepower alone cannot destroy the resilience of enemy willpower or the persistence of his strategic intentions.

Reduction of military advantage. The United States does not enjoy a permanent monopoly on the technology of precision firepower. The inexorable cycle of weapons and counterweapons development

US Air Force

An F 15E Strike Eagle taxis on the runway at Aviano Air Base as an F 16 Fighting Falcon lifts off on a mission over Kosovo, 12 May 1999.

Some believe that air support for the Kosovo Liberation Army's ground operations plus the threat of a ground invasion finally convinced Milosevic to agree to an armistice. . . . Whatever the reason, 25,000 plus NATO ground troops were needed to enforce the terms of the armistice. NATO troops are still in Serbia, and no political solution that would allow NATO's withdrawal is in sight.

will sooner or later reduce our tremendous military advantages. To date, the theory of precision firepower has been tested only against relatively unsophisticated enemies. Were the United States to engage an enemy with the resources and military might of the old Soviet Union or tomorrow's China or Iran, we would likely find precision firepower wanting. Many of our enemies and some of our friends will sell sophisticated weapons to any rogue nation with money.

An enemy with limited but well-allocated, high-tech weapons of his own could stymie key parts of our offensive arsenal, which is precisely what Serbia was able to do in 1999. To deny NATO aircraft the signal needed to locate and destroy them, Serb air defense operators turned their radar off, which caused NATO planners to think twice and fly high before directly attacking Serbian ground forces. Serbian airpower's mere existence, not its use, kept NATO jets above 15,000 feet, which greatly degraded their effectiveness against Serb forces. NATO was forced to resort to bombing fixed, dual-use military and civilian targets to bring pressure on Serbian President Slobodan Milosevic's government.[22] An enemy's ability to wait out, counter, or evade the effects of precision firepower neatly exposes the theory's shortcomings.

Moral implications. Precision firepower theory raises unique, thorny moral dilemmas. What were the moral implications of attacking Serbian dual-use infrastructure to avoid ground combat against Serbian paramilitaries committing atrocities in Kosovo? How much direct and indirect harm can the U.S. impose on civilians near such targets to limit the risk to U.S. pilots? The international outcry against the bombing campaign, some from within NATO itself, certainly encouraged Milosevic to hold out in hopes of a collapse of NATO will or unity.[23] The International Criminal Tribunal for the former Yugoslavia briefly contemplated indicting NATO military leaders for violating the law of war.[24] That persuasion is a game both sides can play and is a factor precision firepower advocates often ignore.

The United States' preference for bombing instead

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of conducting ground operations has caused many leaders in the developing world to view the United States as a powerful but cowardly bully. The United States appears willing to lob missiles and bombs at an enemy from afar but unwilling to confront its foes "honorably."[25] Our impressive technology does not seem to intimidate our enemies into submission, but to encourage them to find new ways to resist our strengths and to attack our weaknesses asymmetrically.

Precision Firepower Theory's Seductive Nature

The use of precision firepower also seduces U.S. foreign policymakers to resort quickly to the use of force as a substitute for grand strategy. Unlike the complicated, costly synchronization of all of the elements of power over time to achieve foreign policy objectives, precision firepower seems to promise a rapid, risk-free path to victory that uses limited military force. USAF Colonel Phillip S. Meilinger argues, "Aerospace power . . . should be our weapon of choice because it is the most discriminate, prudent, and risk-free weapon in our arsenal."[26]

As with every seduction, however, the excitement of the chase soon is replaced by discontent and even misery. The ability to destroy fixed targets in the enemy's homeland is not a substitute for strategy. As U.S. joint doctrine warns, "There is a delicate balance between the desire for quick victory and termination on truly favorable terms."[27] Precision firepower tends to tip that balance toward quick victory.

Precision firepower theory also encourages U.S. strategists to overreach in achieving strategic objectives. In the late 20th century, the United States often demanded concessions from wounded but not defeated enemies—concessions that were far out of proportion to the military situation on the ground. Regime punishment all too easily becomes regime change in the overheated rhetoric that characterizes U.S. foreign policymaking. Conversely, situations in Panama and Grenada were quickly resolved using a combination of precision firepower *in support* of landpower. It is instructive to remember what surrender and military occupation can achieve.

In the 1999 bombing of Serbia, NATO leaders and U.S. President William Clinton were convinced that only a few days of air strikes against fixed Serbian targets would persuade Milosevic to end the ethnic cleansing in Kosovo. After 78 days of bombing, immense destruction of Serbian infrastructure, and months of intensified ethnic cleansing, NATO and Clinton were forced to consider a ground invasion to resolve the conflict. Some believe that air support for the Kosovo Liberation Army's ground operations plus the threat of a ground invasion finally convinced Milosevic to agree to an armistice. Other studies conclude that Milosevic agreed to an armistice only when he concluded that NATO was about to annihilate Serbia's economic and civilian infrastructure.[28] Whatever the reason, 25,000 plus NATO ground troops were needed to enforce the terms of the armistice. NATO troops are still in Serbia, and no political solution that would allow NATO's withdrawal is in sight. The alleged success of the bombing campaign locked NATO into a strategic conundrum.

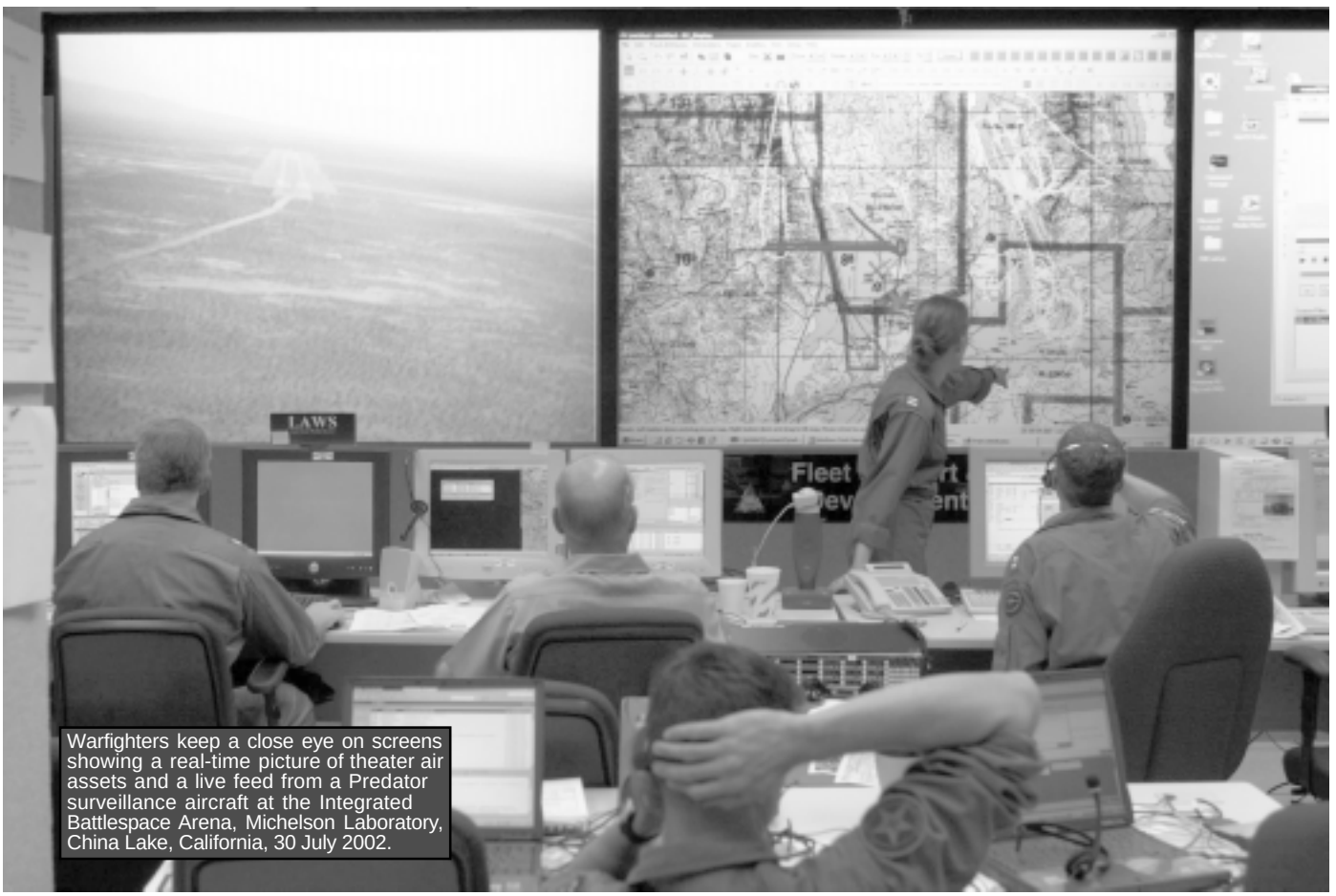
The United States should ensure that its strategic objectives are commensurate with the military victories U.S. Armed Forces have won. If the objective is merely to destroy some particular capability of another state, then precision firepower alone might be successful. We must not, however, expect that our relatively cheap, quick, and easy military victories will somehow bring about long-lasting peace, stability, and support for U.S. strategic objectives. Such grandiose expectation will only make disappointment that much more intense.

The Problem of Ends in War

Assume that we can sweep aside all the limitations on precision firepower's effectiveness. Assume that the United States' weapons cupboards are overflowing, that the terrain and weather favor us, that the enemy is militarily incompetent, and that we have addressed moral considerations to everyone's satisfaction. Smart bombs and Information-Age wonder weapons prove decisive at the tactical and operational levels of war. The fact is that even in such an idyllic world, precision firepower will come up short because even when the weapons work, the theory cannot deliver victory.

Precision firepower theory's critical shortcoming is that it cannot achieve strategic objectives on its own. Precision air strikes might persuade an enemy to sue for an armistice, but it cannot compel him to

US Air Force



Warfighters keep a close eye on screens showing a real-time picture of theater air assets and a live feed from a Predator surveillance aircraft at the Integrated Battlespace Arena, Michelson Laboratory, China Lake, California, 30 July 2002.

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alter his behavior once strikes cease. When attacked only by firepower, the enemy determines whether or not to submit and how faithfully he will adhere to proffered terms. A political resolution to war that requires an enemy to make fundamental changes to his foreign or domestic policies is possible only through the decisive application of firepower *and* landpower. Only when the victor brings his ground forces to bear to make even passive resistance impossible can he impose his will on the enemy. Even when precision firepower is decisively important in the conduct of a campaign, only ground forces are capable of ensuring lasting victory.

The essential question regarding the use of military force is not how to most effectively apply the military means at hand (tactics and operations) but rather, how to use military means to "fulfill the ends of policy."[29] War by precision firepower can all too easily become killing without purpose. There is no single-dimensional military solution to winning the peace.

War is a political act; it might have its own grammar, but it does not have its own logic. Clausewitz reminds us that the "superiority one has or gains in war is only the means and not the end; it must be risked for the sake of the end."[30] Current U.S. joint doctrine agrees with Clausewitz, cautioning that "wars are fought for political goals. Wars are successful *only when political goals are achieved and these goals endure*" [emphasis in original].[31]

Warden has Clausewitz wrong when he says that the physical aspect of an opponent's power to resist can be separated from his will to resist. Both must be defeated to achieve one's ends in war.

Clausewitz is instructive here on the need to render an opponent permanently helpless: "If our opponent is to be coerced you must put him in a situation that is more oppressive than the sacrifice you call on him to make. The hardship of that situation must not be of course merely transitory—at least in appearance. Otherwise the enemy would not give in but would wait for things to improve. . . . The worst of all conditions in which a belligerent can find himself is to be utterly defenseless."[32]

In [a] sense, precision firepower is a tool for believers in gradualism, escalation, and punishment game theory. Precision firepower advocates can fall prey to the fallacy of mirror-imaging—the belief that the enemy will respond to our actions in ways we ourselves would respond. Of course, the destructive physical effects airpower delivers might or might not affect the enemy the way we anticipate.

U.S. Army doctrine, in line with joint doctrine and Clausewitz, states the following about achieving victory in war: "With their inherent qualities of on-the-ground presence and situational understanding, Army forces make permanent the otherwise temporary effects of fires alone. Domination that extends from the certainty in the minds of enemy commanders that close combat with Army forces, backed by superlative U.S. air and naval forces, will have two outcomes: destruction or surrender."[33]

Recent opponents have shown great skill at ending U.S. bombing strikes by agreeing to a limited set of cease-fire terms, only then to flout those terms after the attacks cease.[34] Turning military successes into lasting political settlements is the formidable challenge of military strategy that precision firepower theory does not answer.

Operation Enduring Freedom in Afghanistan offers some glimpses into this dilemma. Initially the United States announced the limited aim of destroying the al-Qaeda organization. The Taliban had to be destroyed only because it harbored members of al-Qaeda and refused to turn them over to the United States. But it is clear that the United States also desired that Afghanistan cease being a breeding ground for terrorism and to join the community of peaceful nations. The U.S. toppled the Taliban using air strikes in support of a large ground army from the Northern Alliance. Still, the United States does not control events on the ground. U.S. foreign policy leaders are still searching for a way to prevent Afghanistan from sliding back into anarchy.[35]

By using tribal groups as proxies to do ground combat's dirty work, the United States has increased its military power and political stature to the point that some groups are no longer reliably pliant when it comes to implementing U.S. goals. Some groups have used U.S. air strikes to settle grievances against old neighbors, raising the question of exactly who is a proxy for whom. Most groups openly opposed the regime of Afghan President Mohammed Karzai, and in fall 2002, some began launching attacks on U.S. and allied forces. The limited military victories gained through this "new American way of war" simply did not give us the leverage to impose our will on post-Taliban Afghanistan.[36]

Not all strategists believe precision firepower is a substitute for military strategy, although most advocates tend to gloss over or ignore the idea. RDO advocates caution that the theory is not designed for "long-term commitments or to resolve long-standing disputes."[37] The rapid application of precision firepower is only a *means* to support strategy, not a way or an end in itself. Precision firepower advocates would do well to heed these distinctions.

Fundamental Changes

One should not deny the importance of precision firepower and related Information-Age warfighting concepts. They are indeed fundamentally changing the tactical and operational levels of war. The relationship between fire and maneuver and airpower and landpower is constantly evolving because of changes in society and technology. The revolution in military affairs being driven by the Information Age is yet another episode in this long process. U.S. policymakers must grapple with these effects as they prepare to use military force in the 21st century. They must not underestimate its usefulness or its limitations. The debate over whether air forces, navies, or armies are most decisive in war is an argument that obscures the strategic question: "How do we achieve policy objectives with military means?"

Unlike technology, the nature of politics between states changes slowly. Overreliance on the effectiveness of precision firepower theory could lead the United States to conduct military operations that fail to achieve the strategic ends for which those operations were begun. This is the seductive, dangerous nature of precision firepower, and it encourages sloppy thinking on two levels: that military strategy consists primarily of targeting and destruction, often

of civilian and military infrastructure instead of military forces, and that this destruction alone will yield results in military and grand strategy without the need to employ ground forces.

The enemy is not a lifeless mass of fixed buildings, information systems, or weapons platforms. Enemies do not surrender their strategic goals using a simple cost-benefit calculation. Mere destruction of the enemy's means of war is not the true aim of war. Victory is achieved when the enemy's will to resist is broken, and he is compelled to act according to his adversary's will. Like water, the will to resist finds a path that allows it to continue, and wars fought primarily with precision firepower tend to leave paths open after strikes cease.

The victor is the one who renders his enemy helpless to resist and thereby compels him to do the victor's bidding. The presence of ground forces is required to prevent the enemy from evading the effects of firepower, from passively resisting, or from restoring his willpower when the destruction from above stops. This requires the artful combination of air and naval firepower with landpower. Precision firepower is not a technological silver bullet for every strategic objective. We should not confuse the means of war for its end. Smart bombs and brilliant weapons alone do not make good strategy. ***MR***

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NOTES

1. T.R. Fehrenbeck, *This Kind of War* (New York: MacMillan, 1963), 427.
2. John Keegan, *London Daily Telegraph*, 6 June 1999.
3. Richard P. Hallion, *Storm Over Iraq: Air Power and the Gulf War* (Washington, DC: Smithsonian Institution Press, 1992), 254.
4. USAF strategist Phillip S. Meilinger suggests that Guilio Douhet's call for a single defense arm headed by an air arm might have been proven correct after Operation Desert Storm. See Meilinger, "Giulio Douhet and the Origins of Airpower Theory," in *The Paths of Heaven: The Evolution of Airpower Theory* (Montgomery, AL: Air University Press, 1997). See also Air Force Doctrine Document (AFDD) 1, *Air Force Basic Doctrine* (Washington, DC: U.S. Government Printing Office [GPO], September 1997), 12-13, 51, 61.
5. John A. Warden, "The Enemy as a System," *Airpower Journal* 9 (Spring 1995): 41-55.
6. Ibid.
7. AFDD 1, 30. See also AFDD 2, *Organization and Employment of Aerospace Power* (Washington, DC: GPO, 17 February 2000), chap. 1.
8. AFDD 1, 30.
9. Ibid., 51.
10. Price T. Bingham, "Transforming Warfare with Effects-Based Joint Operations," *Aerospace Power Journal* 15 (Spring 2001): 59. The Air Force has also introduced EBO as a way to measure the dollar-cost effectiveness of weapons systems and platforms. See Frank Wolfe, "Air Force Officials to Emphasize Effects-Based Operations in *QDR*," *Defense Daily* 209 (18 January 2002): 1.
11. Jeffrey J. Becker, "Rapid Decisive Operations as Joint Operational Concept," *Army* 2 (February 2002): 50. For the base RDO document, see U.S. Joint Forces Command, *A Concept for Rapid Decisive Operations* (Norfolk, VA: GPO, Final Draft, 25 October 2001).
12. B.H. Liddell-Hart, *Strategy* (New York: Doubleday, 1967), 335. This is to distinguish military strategy from grand strategy, which can be defined as synchronizing the political, economic, information, *and* military instruments of power to achieve the Nation's policy objectives.
13. Certainly not all precision-firepower advocates will accept this definition. There are many terms in this debate: "precision strike," "precision engagement," "global attack," "EBO operations," and "three-dimensional war," to cite some. Each has its own set of principles and definitions. "Precision firepower" seems to best capture the issue's essence. For a discussion of the whole genre, see Daniel Goure and Christopher M. Szara, eds., *Air and Space Power in the New Millennium* (Washington, DC: Center for Strategical and International Studies (CSIS), 1997). For strategists who are somewhat less certain of precision firepower's ability to achieve strategic results, see Benjamin S. Lambeth, *The Transformation of American Air Power: A Rand Research Study* (Ithaca, NY: Cornell University Press, 2000); Robert A. Pape, *Bombing to Win: Airpower and Coercion in War* (Ithaca, NY: Cornell University Press, 1996); Jeffery A. Jackson, "Global Attack and Precision Strike," in *Air and Space Power in the New Millennium* (Washington, DC: CSIS, 1997).
14. For one example of these limitations, see Grant T. Hammond, "Myths of the Air War over Serbia," *Aerospace Power Journal* 14 (Winter 2000): 78-86. Studies of PGM effectiveneness in Afghanistan are still underway. See Hunter Keeter, "Pentagon Downplays Preliminary Look at Weapons Accuracy in Afghanistan," *Defense Daily,* 10 April 2002, 7.
15. The truck was damaged and some of the fighters killed, including a woman with her child. See David Wood, "Fair Targets," *Army Times*, 62, 25 March 2002, 17.
16. There are a number of works on the overestimated effectiveness of strategic bombing. See Conrad Crane, *Bombs, Cities, and Civilians: American Airpower Strategy in World War II* (Lawrence: University Press of Kansas, 1993); and Crane, *American Airpower Strategy in Korea, 1950-53* (Lawrence: University Press of Kansas, 2000); Gian Gentile, *How Effective is Strategic Bombing? Lessons Learned from World War II to Kosovo* (New York University Press, 2001); Mark Clodfelter, *The Limits of Airpower; The American Bombing of North Vietnam* (New York: The Free Press, 1989).
17. Carl von Clausewitz, *On War,* trans. and eds., Michael Howard and Peter Paret (New Jersey: Princeton University Press, 1976), 77.
18. Robert H. Scales, Jr., "America's Army in Transition: Preparing for War in the Precision Age," Army Issue Paper No. 3 (Carlisle Barracks, PA: U.S. Army War College (AWC), Strategic Studies Institute (SSI), December 1999), 13. See also ed., Scales, "A Sword with Two Edges: Maneuver in 21st Century Warfare," in *Future Warfare: An Anthology* (Carlisle Barracks, PA: AWC, SSI), 2001.
19. Michael E. O'Hanlon, "A Flawed Masterpiece," *Foreign Affairs* 81 (May/June 2002): 49-54.
20. Stephen Biddle, *Afghanistan and the Future of Warfare: Implications for the Army and Defense Policy* (Carlisle, PA: AWC, SSI, 20 October 2002).
21. Antulio J. Echevarria II, *Rapid Decisive Operations: An Assumptions-Based Critique* (Carlise, PA: AWC, SSI, November 2001).
22. See Benjamin S. Lambeth, *NATO's Air War for Kosovo: A Strategic and Operational Assessment* (Santa Monica, CA: RAND, 2001), 102-16.
23. See Wesley K. Clark, *Waging Modern War; Bosnia, Kosovo, and the Future of Combat* (New York: Public Affairs, 2001).
24. The case was never formally taken up, but the threat looms large in the future. See Henry A. Kissinger, "The Pitfalls of Universal Jurisdiction," *Foreign Affairs* 80 (July/August 2001): 93.
25. Victor David Hanson argues persuasively that technological superiority, although important, has not been the principle reason for Western military dominance over time. Instead, he proposes that an array of political, social, and cultural institutions is responsible for Western military supremacy. Substituting technology for a lack of will and in place of clear strategic thinking could be the undoing of this historical trend. See Hanson, *Culture and Carnage: Landmark Battles in the Rise of Western Power* (New York: Doubleday, 2001).
26. Phillip K. Meilinger, "Precision Aerospace Power, Discrimination, and the Future of War," *Aerospace Power Journal* 15 (Fall 2001): 12.
27. Joint Publication (JP) 3-0, *Doctrine for Joint Operations* (Washington, DC: GPO, 10 September 2001), III-24.
28. See Stephen Hosmer, *Project Air Force. The Conflict Over Kosovo: Why Milosevic Decided to Settle When He Did* (Santa Monica, CA: RAND, 2001).
29. Liddell-Hart.
30. Clausewitz, 570. See also pages 86-87 for the distinction between theoretical war and the actual conduct of war.
31. JP 3-0, III-25.
32. Clausewitz, 77.
33. Field Manual 3-0: *Operations* (Washington, DC: GPO, 14 June 2001), 1-6.
34. The North Vietnamese suffered terribly from U.S. bombing but still conquered Saigon on 30 April 1975. The U.S. experience in Iraq and the Balkans shows that this lesson has been learned well by our opponents.
35. James Dao, "Bush Sets Role for U.S. in Afghan Rebuilding," *New York Times,* 18 April 2002, 1. See also Michael Zielenger, "In Afghanistan, Senators Urge U.S. to Help Rebuild Nation," *Philadelphia Inquirer,* 2 April 2002.
36. Biddle examines this issue in depth and neatly demonstrates why the "Afghan model" is not an example of firepower determining the outcome and the dangers for U.S. foreign policy of applying this model to future conflicts.
37. U.S. Joint Forces Command, *A Concept for Rapid Decisive Operations* (Washington, DC: GPO, Final Draft, 25 October 2001), v.

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