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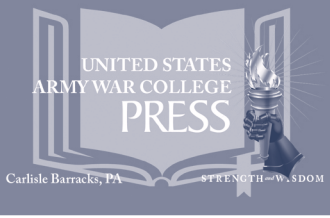

CREATING GREAT EXPECTATIONS: STRATEGIC COMMUNICATIONS AND AMERICAN AIRPOWER

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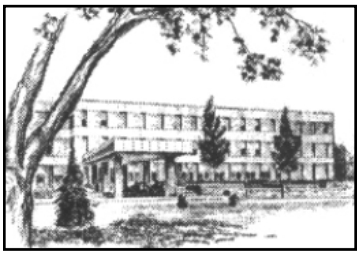

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FOREWORD

Initial operations in Afghanistan in 2001, and Iraq in 2003, seemed to validate claims for the decisive impact of American airpower in modern war. However, the messy insurgencies that followed demonstrated that even primitive foes with adept communication skills could use information campaigns to limit the effectiveness of superior technology and create significant problems in diplomacy and public relations. In some ways, we are our own worst enemy in that regard, having created some unrealistic expectations for the capabilities of technology that our enemies can exploit.

Airpower remains America's greatest asymmetric advantage on the battlefield, and in this Letort Paper, Dr. Conrad Crane suggests some ways strategic communications can be improved to enhance its effectiveness. He traces the course of the U.S. Air Force's pursuit of true precision capabilities, and how expectations always seem to get ahead of reality. The greatest challenge for current military leaders may not be in educating their civilian bosses about all the things the military instrument of power can accomplish, but instead explaining what it cannot.

The Strategic Studies Institute is pleased to offer this Letort Paper as a contribution to the national security debate on this important subject as our nation continues to grapple with the use of airpower around the world. With the continuing American reluctance to get involved in any extended ground deployments, airpower will probably remain the initial tool of choice for political leaders wanting to employ coercive military

force. This Letort Paper provides some important insights on how to do that better and smarter.

DOUGLAS C. LOVELACE, JR.
Director
Strategic Studies Institute and
U.S. Army War College Press

ABOUT THE AUTHOR

CONRAD C. CRANE is currently chief of historical services for the Army Heritage and Education Center at Carlisle, PA. For the previous 10 years, he was director of the U.S. Army Military History Institute. Before accepting that position, Dr. Crane served with the Strategic Studies Institute (SSI) at the U.S. Army War College (USAWC) from September 2000 to January 2003, where he held the General Douglas MacArthur Chair of Research. He also has held the General Hoyt S. Vandenberg Chair of Aerospace Studies at USAWC. He joined SSI after his retirement from active military service, a 26-year military career that concluded with 9 years as professor of history at the U.S. Military Academy. Dr. Crane has authored or edited books and monographs on the Civil War, World War I, World War II, Korea, Vietnam, and Iraq, and has written and lectured widely on airpower and landpower issues. Before leaving SSI, he coauthored the prewar study *Reconstructing Iraq: Insights, Challenges, and Missions for Military Forces in a Post-Conflict Scenario*, which influenced Army planners and has attracted much attention from the media. He was the lead author for the groundbreaking *Army-U.S. Marine Corps Counterinsurgency Manual*, released in December 2006. For this effort, he was named one of *Newsweek's* people to watch in 2007. He visited Iraq in November 2007 at General David Petraeus's request to evaluate the new doctrine in action. In November 2008, he was named the Archivist of the Year by the Scone Foundation. He published two books in 2016, one for Naval Institute Press about the creation and application of American counterinsurgency doctrine, entitled *Cassandra in Oz: Counterinsurgency and Future War*, and another for University Press

of Kansas on American strategic bombing in World War II. In that same year he was awarded the Society for Military History's Samuel Eliot Morison Prize for lifetime contributions to the field of military history. Dr. Crane holds a B.S. from the U.S. Military Academy and an M.A. and Ph.D. from Stanford University. He is also a graduate of the U.S. Army Command and General Staff College and the USAWC.

SUMMARY

Of all the American military services, the two most active and adept in strategic communications in the last century have been the U.S. Marine Corps and the U.S. Air Force (USAF). As the smallest service, the Marines have pursued a very successful public relations campaign to trumpet their accomplishments and ensure their survival. It is a standing joke that a Marine rifle squad consists of eight riflemen and two cameramen. As the newest service, the USAF has had evolving motivations for its communications efforts, but the main goal has always been to escape being relegated to simply a supporting role for everyone else. Initially, USAF leaders wanted to gain independence for their service and later to prove its equality and even ascendency relative to the others. Arguably, adept strategic communications is what created the USAF. With the country's vast distances and relative isolation from continental threats, along with faith in technology and a preference to avoid bloody close combat, Americans have always been uniquely attracted to airpower, a fact that has been very successfully exploited by generations of USAF leaders. But, as a result, the nation has often entered conflicts with exorbitant expectations about what airpower could actually accomplish, creating unique challenges in strategic communications when promises did not match reality, especially in recent conflicts. American airpower doctrine built around a precision-strike capability envisions a rational targeting approach to war that is more relevant to the conventional battlefield than to wars among the people. Airpower is an important component of a unique and asymmetric American way of war that relies heavily on technology, and adaptive enemies

have become very adept at using carefully crafted information campaigns as an effective counter.

Brigadier General William "Billy" Mitchell was the first great publicist for American airpower, but it was World War II Army Air Forces (AAF) Commanding General Henry "Hap" Arnold who used strategic communications effectively to achieve independence for his service. He was able to trumpet the impressive accomplishments of his airmen without alienating the public or political leaders with unsettling images of indiscriminate destruction. However, the use of the words "precision bombing" to describe AAF doctrine established a set of expectations that could not be met with the technology of the era. USAF leaders during the Korean war complained about too many ground commanders and political leaders expecting "miracles from airpower," while, at the same time, airmen remained reluctant to "advertise limitations" to those leaders or the press. After the Korean Armistice Agreement, the service was quick to claim with determined publicity that it had achieved decisive results with an "air pressure" campaign that decimated most cities and towns in North Korea, an opinion not shared by historians.

Taking the wrong lessons from that conflict and the early Cold War, the USAF had the wrong doctrine, equipment, and training to deal with limited war in Southeast Asia. While USAF leaders chafed under restrictions that they believed limited their effectiveness in Vietnam, another resolute enemy with a simple economy thwarted superior weapons technology. The Operation LINEBACKER II bombing in December 1972, however, again allowed the service to claim decisiveness while ignoring its limitations. But it was Operation DESERT STORM and the perceived

effectiveness of precision-strike technology that really launched a deluge of claims that warfare had changed and airpower was now the dominant military tool.

Air operations in the disintegrating situation in Yugoslavia seemed to support these new expectations. Seventeen days of North Atlantic Treaty Organization (NATO) air strikes during Operation DELIBERATE FORCE in 1995 helped persuade the Serbs to accept a ceasefire in Bosnia, and then 78 more days and nights of NATO bombing during Operation ALLIED FORCE produced a settlement over Kosovo. Again, however, the initial expectations for the effectiveness and precision of air strikes proved severely exaggerated. Claims of destroyed Serb military equipment turned out to be extremely inflated, and images of unexpected civilian casualties caused severe strains in the Allied coalition while increasing Serb fears and weakening their resolve. Ironically, such incidents appeared to have reduced the will to continue the conflict on both sides. Michael Ignatieff has aptly pointed out that the journalists' accounts of the maneuvering of cruise missiles in Operation DESERT STORM and fascination with precision munitions have reinforced a myth in Western publics that war can now be thought of as laser surgery or a video game. In the dogged pursuit of the ideal of "precision bombing," the USAF has increased its capabilities tremendously, but the term "surgical air strike" remains an oxymoron. Some targeting errors and technical failures will always occur, and blast effects are often unpredictable. Mistakes will always look more sinister when air forces claim perfection.

This same scenario has played out in Afghanistan and Iraq. The quick fall of the Taliban in 2001 reinforced the predilections of leaders already enamored with airpower and new technology, but soon

growing insurgencies in both countries forced a relook at the application of force in such conflicts. Despite the essential role airpower has played, a weakness of the application of long-range precision strikes in the contemporary information environment is that who controls the ground controls the message. Enemies have become very adept at crafting images of destroyed mosques and dead civilians, creating a narrative of callous and indiscriminate bombings. Foes have been much more adept in such strategic communications than the United States and NATO. Despite this, American political leaders continue to have great hopes for what airpower can do. Barack Obama has admitted that his "worst mistake" as President was his (along with European partners) resort to airpower alone in 2011 to overthrow Muammar Qaddafi in Libya without a corresponding ground force for control and rebuilding.

There are many ironies in the American experience with strategic communications and airpower. The pursuit of precision has produced truly impressive capabilities but even more exorbitant expectations. This is often fueled by service advocates seeking budget advantages or sincerely believing that the USAF has been maligned or neglected, and rarely informed by the objective evaluation of air campaigns. Success in selling those capabilities to decision-makers and actual accomplishments utilizing them in operations have further contributed to unrealistic expectations, with political leaders especially attempting to do too much with the wrong military tool. Americans have always had great faith in technology, a fact that has assisted in the growth of the USAF while contributing to the weight of expectations that it bears. The current state of "counterinsurgency fatigue" in the United States with no desire to employ ground troops will increase

burdens on airmen even more. It is not surprising that many in the international arena seek normative ways to limit the unique advantages airpower dominance brings to the United States, creating another potential obstacle.

Building on the legacy of Billy Mitchell and Hap Arnold to create and publicize a unique set of war-making capabilities, the USAF has become an unmatched air service that inspires unrealistic expectations for what American airpower can do. The hardest strategic communications task for future U.S. military leaders will not be to explain all the great things their aircraft can accomplish, but instead, to honestly admit what they cannot.

The report closes with five recommendations about strategic communications and airpower:

- Manage expectations and keep all options open.
- Educate leaders and the public.
- Be first with the truth.
- Fight the information war relentlessly.
- Invest more in foreign internal defense.

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relies heavily on technology, and adaptive enemies have become very adept at using carefully crafted information campaigns as an effective counter.

PIONEERS OF STRATEGIC COMMUNICATIONS—MITCHELL AND ARNOLD

Early attitudes about strategic communications on the U.S. Army Air Corps (predecessor of the U.S. Army Air Forces [AAF]) were shaped by the experience of Brigadier General William "Billy" Mitchell, the most outspoken American airpower advocate in the period between the World Wars. He commanded the Air Service of the American Expeditionary Force in France, which included working with the newly independent Royal Air Force (RAF), and returned from that war determined to get the American air arm its due.

When his initial campaign to get recognition within military and government circles failed, he moved to a more public campaign, shrewdly emphasizing the defensive capabilities of airpower for the United States. His spectacular sinking of the battleship *Ostfriesland* in 1921 was the highlight of this phase of his strategic communications plan. When that failed to achieve his objectives, his arguments became more shrill; then in 1924 he began to attack the War and Navy Departments in a series of articles in the press alleging "treasonable administration of the national defense" because of their neglect of airpower.

Such actions eventually led to his court-martial conviction in late 1925 for conduct prejudicial to good order and discipline and bringing discredit upon the military service. His unusual punishment, 5 years suspension from active duty at half pay, achieved its

purpose in motivating Mitchell to resign from military service. The future leaders of the USAF—Henry "Hap" Arnold, Carl Spaatz, and Ira Eaker—were all inspired by him, and he established a legacy that senior American air service leaders had to be outspoken advocates for airpower. However, those who witnessed his court-martial also realized that they had to be less confrontational in the way they presented their arguments.[1]

Mitchell continued his publicity campaign as a civilian, expanding his claims for airpower's potential for independent decisiveness. When he advocated Giulio Douhet's views about independent and decisive airpower devastating enemy cities in 1933, Mitchell was no longer a major influence on those individuals developing AAF doctrine. Either because of his earlier military experience in the ruthless guerrilla war in the Philippines or from his incessant desire for publicity, Mitchell tended, as time went on, to become more extreme in support of terror bombing of cities and more out of touch with mainstream Air Corps views about precision attacks against industry. Ironically, while resigning from the service after his court-martial gave him more freedom to advocate for airpower publicly, it also lessened his influence and connection with those actually developing American air doctrine.[2]

As World War II began, AAF leaders were especially sensitive to public opinion since the airmen believed they needed all the support they could get to achieve independent status. Between the wars, Army Aviators had promoted "air-mindedness" and exploited American dreams that the airplane could revolutionize daily life and transform the world for good. At the core of the precision-bombing doctrine was the belief that the

American public would not stand for the indiscriminate aerial bombardment of civilians.[3]

Leading the AAF was Commanding General Henry "Hap" Arnold. In order to support his desire for a postwar independent air service, Arnold wanted to avoid alienating the public with unsettling images of indiscriminate destruction, but he also needed impressive results to prove the effectiveness of airpower. His main objective was to make the largest possible contribution to winning the war while ensuring that the AAF received proper credit through plentiful publicity. Accordingly, he demanded much from his field commanders in the area of public relations. He wrote to them in 1942, "Within the borders of [the] continental United States, two most important fronts exist, namely, aircraft production and public opinion." He thought that the American public was entitled "to see pictures, stories, and experiences of our Air Force in combat zones," and he sent personnel from his staff around the world to gather such information. He favored the declassification of as much information as possible, which is an unusual position for most military leaders. In 1943, he complained to his commanders that too much information was being withheld because of secrecy; it was more important that the people be kept informed of the major impact the AAF was making on the enemy's war effort, an impact that could save millions of lives in ground combat.

> For whole-hearted and official support of our Air Forces in their operations, . . . the people [must] understand thoroughly our Air Force precepts, principles, and purposes. . . . In short, we want the people to understand and have faith *in our way of making war* [italics in original]."[4]

Field commanders protested vehemently when Arnold tried to get them to replace a machine gun from the bombers with a camera to provide more combat film footage, but their objections had little effect on his drive for media coverage. Arnold exerted even more pressure for publicity once the Allies invaded Europe and the war seemed to be approaching its conclusion. He complained that ground and naval commanders such as General George Patton and Admiral William Halsey were overly publicized, while the contribution of airpower was ignored. He emphasized to his subordinates that he considered "the whole subject of realistic reorientation of the public's concept of the effect of air power upon the outcome of the war so important" that he would "scour the country" to find enough public relations experts to reinforce press representatives in the theater. Because of his emphasis, by November 1944, fully 40 percent of the total film released by the U.S. Army to newsreels came from AAF combat camera units.[5]

Even this increased cinematic output did not please Arnold, who wanted more front-page stories in the print media as well, and sent out to all commanders a list of 50 points to writing proper news releases. Thinking ahead about the future of the AAF, he was determined that, "through proper presentation to the press," the American people could get the facts necessary to make "a correct evaluation of the part air power has played in this war" so that "the United States should not make the mistake of allowing, through lack of knowledge, the tearing down in postwar years of what has cost us so much blood and sweat to build up."[6]

Newsreels and still photos released by the AAF never showed collateral damage and instead emphasized accuracy and discriminate targeting. There was

a mutually reinforcing relationship between AAF pronouncements and public attitudes that still exists today. AAF planners interpreted public opinion as favoring precision attacks on economic and military targets without unnecessary civilian casualties. Military reports and news releases designed to demonstrate the accuracy and effectiveness of supposed pinpoint bombardment in turn shaped public expectations.

AAF headquarters was always concerned about a negative reaction from the public to attacks on enemy cities, and their fears seemed realized in February 1945. As the result of a press conference after the Dresden, Germany, attacks on February 14 and 15, nationwide headlines appeared such as "Terror Bombing Gets Allied Approval as Step to Speed Victory." Howard Cowan, an Associated Press reporter, based his story on a briefing in Paris, France, by Air Commodore C. M. Grierson of the Supreme Headquarters Allied Expeditionary Force (SHAEF) air staff. Grierson did not mention causing terror or civilian casualties, but he did point out that recent heavy bomber attacks on population centers such as Dresden had caused great need for relief supplies and had strained the economic system.

Arnold was appalled at the negative publicity and immediately demanded an explanation from Carl Spaatz, commander of U.S. Strategic Air Forces in Europe. Spaatz was in the Mediterranean, but his deputy commander for operations, Major General Frederick Anderson, replied that the report had exaggerated the briefing officer's statements and had never been cleared by censors. He reiterated that their mission remained to destroy Germany's ability to wage war, and that the AAF did not consider attacks on transportation centers terror attacks. "There has been no change in policy, . . . there has been only a change

of emphasis in locale." Anderson also wrote to Major General Laurence Kuter on Arnold's staff and told him that, because an RAF officer had caused the trouble, it had "led some people to say that it was intentional in an effort to tar us with the same brush with which British Bomber Command has been tarred." RAF night area raids on German cities were much more controversial. Anderson disagreed: "I believe it was a shear [sic] case of absolute stupidity by an incompetent officer." Theater commander General Dwight Eisenhower confirmed that the briefer had gone beyond his knowledge and authority.[7]

Despite AAF fears of negative U.S. public reaction to the announcements of terror bombing, none came. Arnold was satisfied by February 20 that "the whole matter is now definitely in hand," but on March 5, Secretary of War Henry Stimson asked for an investigation of Dresden: "An account of it has come out of Germany which makes the destruction seem on its face terrible and probably unnecessary." He did not want Dresden destroyed since he hoped the capital of Saxony could be "a portion of the country which can be used to be the center of a new Germany which will be less Prussianized and be dedicated to freedom." Typically, Stimson found out about the incident long after the fact and not through regular channels. He was rarely kept informed of operational details by the joint staff, and he most likely read the accounts of Grierson's briefing in the press.

Arnold, recuperating in Florida from a heart attack, was very perturbed when informed that Stimson was concerned about the raid. Reflecting his exasperation with everyone who questioned AAF bombing policies, Arnold scrawled on a message from his headquarters dealing with Stimson's request, "We must not get soft.

War must be destructive and to a certain extent inhuman and ruthless." But that is not an attitude he or other AAF leaders expressed in public. The resulting AAF report by Arnold's staff was not so callous and correctly blamed RAF incendiary bombs for most of the damage in Dresden. Trustful of his military advisers, Stimson seemed satisfied, and he let the matter drop. The whole controversy caused Arnold considerable strain and contributed to his declining health and numerous convalescent leaves and trips.[8]

Partly as a result of this controversy and partly because of an accidental bombing of Swiss territory in February 1945, a new bombing policy was issued to U.S. Strategic Air Forces on March 1. It emphasized that only military objectives could be attacked and was especially restrictive about attacks in occupied areas. Attacks on built-up areas were considerably cut back, though the Army continued to request attacks that the airmen considered excessive. Spaatz maintained that a town would be bombed only "when the Army specifically requires the action to secure its advance and specifically requests each town as an individual target in writing." Major General David Schlatter, deputy chief of air staff for SHAEF under Eisenhower, noted that Spaatz's policy was so restrictive because "he is determined that the American air forces will not end this war with a reputation for indiscriminate bombing."[9] Along with other AAF leaders, Spaatz realized how important the service's public image would be in attaining coveted independence.

That reputation for indiscriminate targeting would become harder to avoid in light of Major General Curtis LeMay's incendiary bombing campaign against Japanese cities, which began the same month as the new restrictive bombing directive in Europe. Newspaper

accounts of the fire raids, mirroring AAF intelligence on bombing results, concentrated on physical damage rather than on civilian deaths. Articles on the big Tokyo raid on the night of March 9, 1945, that opened the campaign were typical. They noted the heavy population density but emphasized that in the area destroyed, "eight identifiable industrial targets lie in ruins along with hundreds of other industrial plants." One account quoting LeMay mentioned thousands of "home industries" destroyed, and another claimed that the raid's purpose was realized "if the B-29s shortened the war by 1 day." Accounts did not estimate civilian casualties, but they did proclaim that the many thousands made homeless posed an immense refugee problem for the Japanese Government. Deaths were not mentioned, and there were no pictures of the destruction, just maps of the destroyed zone.[10] The lack of reference to noncombatant casualties by the press resulted from a similar oversight in AAF accounts of the incendiary attacks. This omission was not an example of AAF censorship, since mission reports also neglected such statistics; such figures were difficult to determine even by civil defense authorities on the ground and were not normally included in AAF intelligence assessments that relied primarily on aerial photography.

AAF headquarters in Washington, DC, reacted ecstatically to the incendiary attacks, and planners quickly developed a new list of industrial sectors within cities for priority targets. The 20th Air Force headquarters, the command element over Lemay's 21st Bomber Command, was back in Washington under Arnold's direct control, and it assured LeMay on Guam that, except for aircraft engine plants, there were no real strategic bottlenecks in Japan suitable to attack, but "Japanese industry as a whole is vulnerable

to attacks on the principal urban industrial areas." LeMay received congratulatory letters from Arnold and other AAF leaders in Washington.

Among key figures there, only Stimson seemed troubled. He apparently learned the details of the raids later and then from press accounts, probably after LeMay gave a briefing on Guam about the fire raids on May 30 that produced stories claiming it was possible that "1,000,000, or maybe even twice that number of the Emperor's subjects" had perished in the conflagrations. On June 1, Stimson told Arnold that Assistant Secretary of War for Air Robert Lovett had promised that only precision bombing would be used against Japan, not the first or last case of exorbitant promises of accuracy and effectiveness from American air leaders. Arnold explained that, because of Japanese dispersal of their industry, "it was practically impossible to destroy the war output of Japan without doing more damage to civilians connected with the output than in Europe." Arnold did promise, "they were trying to keep it down as far as possible."

Having no other information, Stimson believed Arnold. In a later meeting with President Harry Truman, the Secretary of War repeated Arnold's arguments. Stimson was anxious because he did not want his country to "get the reputation of outdoing Hitler in atrocities." Paradoxically, he also was afraid that the AAF would leave Japan "so thoroughly bombed out" that no suitable target would remain to demonstrate the atomic bomb. Stimson continued to approve the fire raids, but was very disappointed that there was no public protest about them.[11] In a trend that continues today, the American public and political leaders always seemed to assume that airmen were doing

the best they could to win the war with the technology they had in accordance with national values.

At the Potsdam Conference in Germany, Arnold passed out books of photographs showing the destruction of Japanese cities, a common form of airpower publicity. When Stalin proposed a toast to a meeting in Tokyo, Arnold boasted, "If our B-29s continue their present tempo there [will] be nothing left of Tokyo in which to have a meeting." His attitude was well-received by those assembled. Hatred for the Japanese was evident, typified by Lord Louis Mountbatten's remarks that the Japanese royal family were "morons" who should be liquidated. Arnold was optimistic about his air forces' ability to end the war, betting Sir Charles Portal, the British chief of air staff, that the conflict would be over "nearer Christmas 1945 than Valentine's Day 1946."[12]

Arnold would win his bet handily. After the war, the carefully crafted *U.S. Strategic Bombing Survey* (USSBS) furthered AAF arguments for independence even more. To AAF leaders, the main lessons of that analysis, prepared mostly by economists and scientists, apparently were that better analysis of target systems and an earlier focus on key industrial objectives such as oil would have collapsed enemy economies much sooner. In his detailed analysis of the conduct of the USSBS, Gian Gentile concludes that the process was carefully crafted to come up with results that would support AAF doctrine and its possible decisiveness as an independent service, both in the framing of questions for analysis and the selection of personnel to do it. He asserts:

> The civilian analysts of the USSBS accepted the American conceptual approach to strategic bombing . . . made it the analytical framework for their evaluation, and

> wrote conclusions about air power in World War II that vindicated their conception.[13]

The seven-volume official history, *The Army Air Forces in World War II*, appearing between 1948 and 1958, was also written with that agenda in mind.[14]

LEGACIES FOR KOREA AND VIETNAM

The beginnings of the new National Military Establishment in 1947, which would eventually become the Department of Defense, with an independent air service, occurred during a tumultuous period of USAF reorganization and doctrinal disputes that would continue into the early 1950s. The new service came into existence with a revised structure installed by the new Chief of Staff, General Carl Spaatz. Combat forces in the continental United States were organized into the Strategic Air Command (SAC), the Tactical Air Command (TAC), and the Air Defense Command, while air units overseas were controlled by theater air commands. Support commands in the continental United States included Air Materiel Command, Air Proving Ground Command, Air Training Command, Air Transport Command, and Air University. Congress approved a goal of 70 air groups for the service, but rapid demobilization and budget cuts kept the force well below that level until the rearmament sparked by the Korean war. On V-J Day, the AAF possessed 2,253,000 men, but by the end of May 1947, its total strength was down to only 303,614. Spaatz's successor, General Hoyt Vandenberg, proved himself very adept at garnering support from Congress and the public for USAF programs despite the administration's reluctance to spend money on defense.[15]

The new service, and the new National Military Establishment, also needed new doctrine. Interservice disputes prompted by battles over scarce budget dollars as well as genuine differences of opinion, exacerbated by a lack of a coherent national military strategy, made joint doctrine almost impossible to develop. The Navy even questioned the whole raison d'être of the USAF, portraying plans to drop atomic bombs in an air offensive against an enemy homeland as immoral and ineffective. The ensuing controversy taxed the new USAF's public relations capabilities. During the debates about the USAF B-36 bomber connected with the "Revolt of the Admirals" in 1949, Rear Admiral Ralph Ofstie told the House Armed Services Committee:

> We consider that strategic air warfare as practiced in the past and as proposed for the future, is militarily unsound and of limited effect, is morally wrong, and is decidedly harmful to the stability of the postwar world.

His accusations inspired a spirited defense by Major General Orville Anderson of the Air University, who argued that the United States "was not only morally justified but morally obligated to develop our maximum strength to provide for our security" from the aggression of totalitarian nations that would have "little to worry about in a war with us fought according to traditional patterns." This was not the first time Ofstie and Anderson had disagreed over airpower issues. They had first clashed while assigned to the USSBS, where they had been the most strident spokesmen for their respective service viewpoints. The Navy conveniently forgot their arguments about the immorality and ineffectiveness of strategic bombing when it

got its own nuclear striking forces, an irony that was gleefully highlighted by USAF supporters.[16]

Unfortunately, the strategic communications campaign about airpower capabilities designed to achieve and then support independent status created expectations that could not be met in the Korean war. One of the problems that the Far East Air Forces (FEAF) encountered in Korea was that too many ground commanders and political leaders expected "miracles" from airpower. In an interview, General Jacob Smart, who directed FEAF operations in 1952 and 1953, asserted, "Few people other than experienced Air Force people appreciate the limitations of airpower." Air forces "have only destructive power," and while it may be substantial, it might not always be the best means to an end. Additionally in Korea, FEAF sometimes lacked the resources or competence to carry out assigned missions or those requested by supported units. This was especially applicable to aerial interdiction. However, Smart also admitted:

> We air force people don't advertise our limitations to demagogic politicians, and we certainly don't advertise our limitations when we're talking to the members of the press, who are looking for the opportunity to denigrate the speaker or his service.[17]

Ironically, those are probably the two groups who require the most education about the realistic capabilities of airpower.

After the armistice was signed in 1953, the USAF looked back at its first war with a great sense of pride and accomplishment. Despite limited resources and many restrictions, the "shoestring" service believed it had been "the decisive force in Korea" and primarily responsible for most United Nations (UN) successes,

an opinion not shared by historians. This attitude was supported by many articles and historical studies in USAF journals that came out soon after the war ended, praising FEAF's accomplishments. FEAF commander General O. P. Weyland himself contributed a number of capstone pieces summing up the record of his command, trying to capture lessons applicable to future conflicts. His article in the first *Air University Quarterly Review* after the armistice set the tone for future service interpretations of the war that were widely trumpeted. He defended the USAF approach to close air support, which had often been denigrated in comparison to U.S. Marine Corps bombing support in the press, and claimed it destroyed over 150,000 enemy troops and 750 tanks in the first year alone. He admitted that the interdiction campaign did not completely prevent the Communist forces from conducting limited attacks or an obstinate defense, but "it was an unqualified success in achieving its stated purpose, which was to deny the enemy the capability to launch and sustain a general offensive." It also was an important component of the punishing air attacks that were the primary UN offensive strategy during the last 2 years of the war in an "air pressure" campaign that decimated North Korean cities and towns, despite determined enemy efforts to challenge UN air superiority. In his view, these air attacks finally compelled the Communists to accept the armistice. Weyland ended his essay with a prescient plea for the development of new ways to use airpower to achieve limited objectives in a new kind of war.[18]

The USAF itself was also very sensitive to any downplaying of its role in Korea, and executed a vigorous publicity campaign to defend it. In 1955, FEAF Assistant Deputy for Operations Colonel James T.

Stewart was reassigned to USAF headquarters in Washington in a research and development planning and programming capacity. While there, the USAF Public Information Office (PIO) selected him to edit a book that would demonstrate the service's important contributions in Korea. The title, *Airpower: The Decisive Force in Korea*, conveyed the message the USAF wanted to send. The PIO had already accumulated most of the material, consisting primarily of articles from the *Air University Quarterly Review*, and Colonel Stewart did some editing and worked with the civilian publisher who had agreed to print the finished product. His volume, which began with Weyland's article summing up FEAF's air campaign, contains detailed studies of key bombing operations with some primary accounts to bolster the theme that, "Without question, the decisive force in the Korean war was airpower." At the same time Stewart was pursuing that project, Robert Futrell at the Air University was culling through his three classified historical studies of the war to produce his superb *The United States Air Force in Korea 1950-1953*. Futrell completed his work late in 1958 after Stewart's book had already been published. A detailed narrative of the air war, Futrell's book also emphasizes the themes of successful and decisive airpower Weyland espoused, and attributes the new postwar defense policies of President Eisenhower to the fact that "the years of the Korean war marked acceptance of the predominance of airpower among America's armed-force capabilities." Futrell maintained this position when he revised the book in 1983 as well.[19]

The USAF also had to revise its communications strategy to deal with problems in recruitment. In March 1952, the acting chief of the Aviation Medicine Division of the Office of the USAF Surgeon General circulated

among the air staff a study on "Fear of Flying and Lack of Motivation to Learn to Fly." He cited a number of alarming trends that threatened the USAF's ability to maintain the necessary quality and quantity of flight crews. Among the disturbing findings were statistics that less than one-half-of-one percent of USAF Reserve Officers' Training Corps graduates had applied for flight training and (even after lowering qualification requirements) only 700 applications had been received for 1,600 May pilot training quotas. He suggested that the USAF needed "an enthusiastic, sustained, and well-financed program to popularize flying throughout the entire country in order to re-establish a keenness for flying among the youth of the nation." Responses to the study supported its conclusions. Some blamed the lack of interest in flying on apprehension about jet aircraft, and an unwillingness to experiment with the new technology. Only by appealing to a younger age group of 17 to 21-year-olds would "exceptions to guinea pigs" be found. Other suggestions included a television show to influence parental opinion, and comic strips and movies to popularize the USAF. The drop in youth interest in aviation coincided with what historian Joseph Corn has portrayed as a period of decline in "the air-age education movement" of the late 1940s. The images of SAC nuclear bombers and the grim realities of the Cold War chilled the enthusiasm for visions of global neighborliness and endless possibilities for progress that the airplane had generated in American education for decades. The number of aviation articles in educational journals and college courses incorporating aeronautical themes declined precipitously between the end of World War II and the early 1950s. Eventually, Milton Caniff's comic strip "Steve Canyon" was designated to be subsidized to

cover aviation cadet life and appeal to the 17 to 19 age group. The comic did do much to promote a positive image of the USAF, as did the television show that derived from it.[20]

Soon another war in Asia would bring the same sort of inflated expectations and disappointing results for an air service still configured for a nuclear war with the Soviet Union. The appointment of LeMay as Vice Chief of Staff in 1957, and Chief of Staff 4 years later, reinforced the USAF emphasis on strategic nuclear bombing. By 1964, three-fourths of the highest-ranking officers on the air staff came from SAC. LeMay had completed the organization's transformation into the world's most powerful striking force, and had even supported the making of two more movies to extol its virtues, *Bombers B-52* and *Gathering of Eagles*. Ironically, however, the image of his legacy that has been most lasting comes from another film, *Dr. Strangelove: Or How I Learned to Stop Worrying and Love the Bomb*. No matter how hard they try, military services cannot control which movie metaphors the public will embrace. LeMay has often been mistakenly identified with the character of General Jack D. Ripper, the insane commander who decides to launch his bombers to start World War III and counter the evils of fluoridation. LeMay decided early in his career that he lacked the political skills to be diplomatic with superiors, and determined always to be blunt and straightforward with his opinions, "whether you liked it or not." He also appears to have enjoyed shocking people at times with some of his more inflammatory statements. But he would not start a war on his own. Like General Buck Turgidson in the movie, however, the character that most resembles LeMay, he was going to make sure that if general war did begin, the United

States would achieve the best possible result. General Ripper's characterization was based more on Thomas Power, LeMay's successor as commander of SAC, who remained in that capacity for 7 years. He was an even more extreme advocate of SAC's mission than his predecessor. Power achieved notoriety in 1958 when he wrote a book on nuclear strategy called *Design for Survival*, but the Secretary of Defense would not approve its publication by a uniformed officer. In the book, Power decried disarmament and advocated a posture of overwhelming military superiority for the United States. He became a hero in conservative circles as the author of the "banned book," and was the only military witness to testify against the nuclear test ban treaty before the Senate in 1963.[21]

None of the American armed services were really ready for the situation they confronted in Vietnam, but again, civilian leaders based their early wartime decision-making on high expectations for airpower. As Mark Clodfelter and Earl Tilford have chronicled, the USAF had the wrong doctrine, equipment, and training to deal with limited war in Southeast Asia. Even America's expanded tactical airpower was configured for nuclear attacks and not prepared for the new challenges. As Caroline Ziemke has so eloquently stated, "Like Dorian Grey, TAC had sold its soul in exchange for vitality; and in Vietnam, the world got a look at its aged and decrepit conventional structure." Perhaps the USAF could have successfully executed its initial proposal in 1964 for a classic strategic bombing campaign against 94 targets in North Vietnam that would have destroyed "its capacity to continue as an industrially viable state," but that contingency did not take into account the nature of the insurgency in the South, support from China and the Union of Soviet Socialist

Republics, or the concerns of President Lyndon Johnson and his advisers about widening the war. While military leaders modeled their recommendations on the strategy that they believed had been successful in World War II, their civilian bosses harkened back to the actions that had incited Chinese intervention in Korea. As the gradual escalation of Operation ROLLING THUNDER (or "Rolling Blunder" as airmen today refer to it) continued, the USAF had to relearn how to fight a joint limited war. The new campaign revealed again the difficulties with aerial interdiction of primitive and manpower-intensive supply systems, and that the USAF had still not developed effective night capabilities. For Army Chief of Staff General J. Lawton Collins, Vietnam reaffirmed the lessons learned in Korea: that "no amount of aerial bombing can prevent completely the forward movement of supplies, particularly in regions where ample manpower is available." The old interservice disputes about command and control and close air support quickly resurfaced, with additional friction over the role of helicopters. Analysts of the early years of the air war in Vietnam have noted, "not only were past mistakes repeated, but new challenges resulted in new mistakes." Command and control of tactical air operations was so bad it "would have led to disaster if U.S. forces had faced a capable air opponent." Though the command of air elements in Vietnam was even more fragmented than in Korea, Operation ROLLING THUNDER was primarily the responsibility of the Commander-in-Chief, Pacific (CINCPAC). It is interesting to speculate how the air campaign would have been conducted if it had begun a year earlier, when General Jacob Smart was commander of the Pacific Air Forces under CINCPAC.

Perhaps his experience in Korea would have made a difference in the way the air campaign was conducted.[22]

As in Korea, a resolute enemy with a simple economy thwarted superior technology in weapons. Operations such as ROLLING THUNDER drew directly on the precision-bombing doctrine to target North Vietnam's vital economic and military centers and to destroy its capacity to wage war. A combination of political restrictions, gradualist tactics in the application of force, and the nature of the enemy's will and infrastructure frustrated these grandiose plans. Because of an exaggerated opinion of American success with air interdiction in World War II and Korea, the USAF concentrated heavy bombing on enemy supply lines and sources in North and South Vietnam. In 1967, General Matthew Ridgway wrote,

> There were those who felt, at the time of the Korean War, that air power might accomplish miracles of interdiction. . . . The fact that it could not accomplish these miracles has not yet been accepted as widely as it should have been.[23]

He believed that "some in high position" still failed to appreciate the limitations of airpower. These deficiencies were evident in ineffective campaigns against precision target systems such as oil and electric power. As then-Secretary of Defense Robert McNamara came to realize that the agrarian economy and guerrilla forces of the North Vietnamese would never collapse from bombing, USAF leaders chafed to be free of political restrictions so that they could strike harder at key targets in Hanoi and Haiphong.[24]

The newly-elected President, Richard Nixon, gave the USAF its chance with Operations LINEBACKER I and LINEBACKER II, which included sending strategic bombers against objectives in North Vietnamese cities. Earlier attempts to destroy small factories with

B-52 bombers had just highlighted their "inability . . . to hit a small target without damage to the surrounding civilian population," a result that brought a halt to such missions.[25] Nixon allowed even more extensive targeting of urban storage and transportation facilities. Accuracy was relatively good and evacuations helped keep casualties low. Though 730 B-52 sorties attacking urban targets during Operation LINEBACKER II in December 1972 caused only 1,318 civilian deaths, considerable public outcry arose against the operation, and world opinion quickly compared the attacks with World War II area bombing raids, such as those against Dresden. When advised to inflate their claims of civilian casualties, the North Vietnamese refused, claiming correctly that such a relatively low number would still be enough to incite uproar both internationally and domestically. The higher the expectations for accuracy, the easier it is to exploit the inevitable frictions of aerial bombardment, and the period of the Vietnam war marked the nadir of American public trust and support for its military in the last century, meaning that people were more willing to question military claims. The operations did fulfill the Commander in Chief's goal to bring the North Vietnamese back to the peace talks, however, and helped persuade them to accept a ceasefire in January 1973. Nixon also intended Operation LINEBACKER II to impress the South Vietnamese and to gain their support for the results of the negotiations.[26]

Five months of Operation LINEBACKER I had crippled North Vietnam's military capability, and the 11 days of Operation LINEBACKER II had unsettled its urban populace. Despite harsh criticisms in the American press and public protests, Nixon had continued attacks on Hanoi and Haiphong until the North Vietnamese agreed to return to the peace

table. The aerial operations against cities that had to be defended had depleted North Vietnam's supply of surface-to-air missiles as well as military and civilian food stocks; thus, leaders decided to negotiate to gain a respite from further bombings. Again the USAF reacted quickly to control the postwar narrative about its effectiveness in the conflict and for future operations, though there was no systematic evaluation like the USSBS, or speedily produced official histories as there was for Korea. USAF proponents instead used the results of Operation LINEBACKER II to claim that political constraints had prevented them from winning the war, and retired Generals LeMay and William M. Momyer echoed that sentiment by asserting that unrestrained airpower could win any war. Yet, as historian Mark Clodfelter has pointed out, "Most air commanders fail to understand that the 'Eleven-Day War' was a unique campaign for very limited ends." It did not cause the North Vietnamese Army or nation to surrender; it simply furthered Nixon's political goal for a negotiated settlement and delayed final victory for his enemies; Operations LINEBACKER did not vindicate American tactics or target selection. In fact, there is an installation in Hanoi called "The Museum of Victory over the B-52" that asserts that the December 1972 downing of 15 B-52s in a "Dien Bien Phu of the air" led to American withdrawal.[27] But another limited conflict involving an air campaign against a state, this time in Southwest Asia, would produce more USAF arguments for the decisiveness of airpower.

INFLATED EXPECTATIONS FROM OPERATION DESERT STORM AND THE BALKANS

Operation DESERT STORM seemed to feature the perfect air war, the culmination of the American search

for precise targeting and weaponry. While newspaper cartoons portrayed cruise missiles reading street signs, General Norman Schwarzkopf's daily briefings highlighted the accuracy of bombing on buildings and bridges. Almost every day, the world was treated to another video display of amazing precision. From the beginning, limited war aims and concerns about maintaining the fragile Allied coalition influenced the execution of the air offensive. This does not mean that extensive bombing of targets in Iraqi cities did not occur. American air strikes destroyed water, power, and transportation facilities in Baghdad. Strategic targets pinpointing electricity, oil, communications, supply depots, and transportation nodes were hit throughout Iraq. From the beginning of the war, administration officials and military leaders emphasized that commanders in the field would be allowed to fight the war free of interference from Washington, and there were few prescribed limitations on the targeting of military and economic objectives. In one notable exception, Secretary of Defense Richard Cheney ordered the Joint Chiefs of Staff to review all missions over Baghdad after the bombing of the Amiriya bunker that killed many civilians.[28] Otherwise, the USAF exercised great restraint regarding sacred sites and residential areas, though some collateral damage resulted from near misses or downed cruise missiles. Learning their lessons from Vietnam, leaders in Southwest Asia and Washington responded quickly to counter any claims of indiscriminate bombings with explanations and photographs.

However, the images from the press conferences were misleading, though they would have long-lasting influence on public perceptions of precision targeting. Iraq absorbed half as many so-called "smart bombs"

in 43 days as Vietnam did in 8 years, but precision munitions made up only 6,250 of 88,500 tons of bombs dropped on Iraq and occupied Kuwait. Although 90 percent of the smart weapons hit their targets, the accuracy rate for unguided bombs was only 25 percent. Over 62,000 tons of bombs missed their targets, a rather disappointing level of precision. The USAF did conduct a thorough evaluation of the air campaign in the Gulf War Air Power Study (GWAPS) headed by Eliot Cohen. Realizing the shortcomings of the USSBS, the GWAPS team strove for objectivity, so much so that the USAF leadership was greatly disappointed that the findings were not more triumphal, and restricted its distribution.[29]

There was some criticism in the international press. Yasuo Kurata, a political commentator for the newspaper, Tokyo *Shimbun*, was highly critical of Americans and the USAF after the bombing of the air-raid shelter in Amiriya that "slaughtered more than 400 people, including about 100 infants and young children." Discounting official insistence that the underground bunker was a communications center, Kurata claimed that Americans are insensitive to civilian casualties because they have never been bombed themselves. He invoked images of Dresden and Tokyo, describing his own memories of the latter raid in graphic detail, and accused the U.S. military of a tendency to dismiss the loss of life as "collateral damage," an "inevitable byproduct of aerial warfare. . . . Carpet bombing by B-52s is the U.S. Air Force's stock in trade. The huge aircraft can destroy entire cities from 30,000 feet; the collateral damage can well be imagined." He implied that Asians and Europeans, sensitized by their own experiences of being bombed, were opposed to the air war against Iraqi cities but that Americans remained

ignorant of the costs of such aerial bombardment and did not seem to care.[30]

It is easy to criticize Kurata's position. Americans did not ignore the tragedy in Amiriya; it received extensive media coverage, and command authorities from the president on down took action to ensure that such incidents did not recur. The experience of being bombed did not stop British or German raids during World War II, nor did it affect European support for the effort to dislodge Iraq from Kuwait. B-52s have never carpet-bombed cities, though Kurata seems to imply that Americans are uniquely preoccupied with urban area attacks. Obviously, this is a distortion of history; he could have been reminded that Japanese aircraft conducted the first air war against population centers when they bombed China in the 1930s. Yet, one should not completely discount Kurata's perceptions. Fears of massive retaliatory American air raids on Baghdad helped deter Saddam Hussein from using chemical or biological weapons in the Gulf war. There is a unique deterrent effect from the threat of massed air attacks that is on display in museums in Beijing and Hanoi. One of the reasons for the relatively easy American advance on Baghdad in 2003 was that so many Iraqi soldiers had surrendered or deserted, many persuaded by one of more than 40 million air-dropped psychological warfare leaflets that communicated if the soldiers went home, they would avoid the destruction of mass air strikes, as was the case from a decade before.[31] One of the challenges of the current emphasis on long-range precision strikes is that such attacks do not have the same fearsome deterrent value as a mass B-52 raid. Creating expectations of decisive results with a few accurately placed bombs that do not cause collateral damage makes the application of more

powerful, large-scale air attacks more difficult for the public and politicians to consider and accept.

The apparent rapid and decisive success of Operation DESERT STORM in 1991 launched a deluge of claims that warfare had changed. Debates raged about whether the new technologies displayed portended a full-blown revolution in military affairs. Airpower advocates trumpeted the results of the air campaign against Iraq and later operations in the Balkans to advocate the expansion of USAF missions.[32] The Battle of Khafji, where aircraft stopped an Iraqi foray from Kuwait into Saudi Arabia, became the model for a publicity campaign for a "halt phase" construct where air units alone could hold off a major enemy theater offensive long enough to allow the build-up of American ground forces. Even ground forces succumbed to this technological euphoria. The 1993 *Army Operations Manual*, U.S. Army Field Manual (FM) 100-5, was based on the premise that the United States would always be able to use "overwhelming force as a way to achieve decisive victory with minimum cost to friendly forces," and to exploit "near-perfect, near-real-time intelligence systems."[33] Air supremacy was another key assumption of the new warfighting doctrine. The bombing campaign to get the Serbs out of Kosovo in 1999 inspired historian John Keegan to declare that conflict to be the first ever successfully won by the air arm alone, and that perceived success helped reinforce the concept of "shock and awe" that gained many adherents before war was again launched on Iraq in 2003.[34]

Air operations in the disintegrating Yugoslavia seemed to support these new expectations for airpower. Seventeen days of North Atlantic Treaty Organization (NATO) air strikes during Operation DELIBERATE

FORCE in September 1995 helped persuade the Serbs to accept a ceasefire in Bosnia, and eventually to sign the General Framework Agreement for Peace in Dayton, Ohio, in November. Though ground threats from Bosnian Muslims and Croats and a rampaging Croatian Army were more significant in achieving that result, airpower advocates were again quick to claim decisive, independent effects.[35] So when another Balkan crisis erupted and diplomacy failed to resolve it, this time over Kosovo in 1999, American and NATO political leaders were prepared to pin their hopes on an air campaign alone to resolve the situation without a ground invasion.

When the bombing campaign commenced, Pentagon planners admitted they did not expect it to force President Slobodan Milosevic to sign a peace agreement. Instead, President Bill Clinton announced that military operations had three primary goals: stop the ethnic cleansing as the Serbs expelled Kosovar Albanians, prevent even worse Serb depredations against civilians there, and "seriously damage" the Serb military's capacity to conduct such atrocities. In fact, the ensuing air campaign accomplished none of those objectives, and even initially worsened the situation as Serb forces responded to the high-technology aerial assault with a low-technology ravaging of the region. The military forces in Kosovo proved to be very adept at using decoys, camouflage, and human shields, and hiding in towns, and postwar surveys revealed very little damage had been done to them. What significant results the air campaign achieved had to be accomplished through a shift to punishing attacks on Serbia to coerce Milosevic to change his policies.[36]

Having to work with a 19-member NATO coalition ensured that "shock and awe" would not be applied.

NATO commander General Wesley Clark and his joint force air component commander Lieutenant General Michael Short wanted to hit power supplies, communications facilities, and command bunkers in Belgrade on the first night of Operation ALLIED FORCE, but NATO political leaders would not even approve strikes on occupied barracks, fearing too many dead conscripts. Targeting was micromanaged even more than in Vietnam. Eventually, Clark got approval to attack a wider target array but still had to get clearance to hit each objective from any nation participating with aircraft on the mission. New information systems facilitated an amazingly complex target selection and review system, linking operational planners in Germany, Belgium, and the United States with data analysts in England and weapons experts in Italy. Lawyers in Germany assessed each target in terms of the Geneva Convention, confirming its military nature and evaluating whether its value outweighed any risks of collateral damage. Clark held daily teleconferences with NATO leaders and finished the process by passing target lists to the Joint Chiefs of Staff and the White House for a final blessing.[37]

With high expectations for accuracy and much political squeamishness among European allies, inevitable but unanticipated errors such as the bombing of the Chinese Embassy and a Yugoslav train eroded support for the air war, and put considerable pressure on NATO political and military leaders to achieve results. Even meticulous planning and precision munitions could not overcome erroneous maps or prevent that train from running late and right onto the targeted bridge as the bomb arrived. Clark was close to running out of militarily useful and politically acceptable targets when he secured approval for the most important raid

of the campaign on May 24, 1999. The destruction of the transformer yards of the Yugoslav power grid disabled everything from the air defense command-and-control network to the country's banking system. It demonstrated NATO's strength and dominance to the political leaders and the civilian population. Knocking out the electric power system also took away power from hospitals and water-pumping stations. Military lawyers made the moral implications clear to Clark. One recalled, "We'd have preferred not to have to take on these targets. But this was the Commander's call." All major Serb cities experienced extended power disruptions until a settlement was reached on June 10 after a 78-day (and night) campaign.[38]

Despite European attempts to restrain attacks, a less-than-final settlement was achieved by the same sort of "imposed cost" strategy applied in Korea and Vietnam, resulting in massive destruction of the civilian infrastructure of Yugoslavia. Pentagon spokesman Ken Bacon sounded like Giulio Douhet, an early airpower theorist who advocated achieving victory through massive attacks on enemy cities to break civilian morale, by speculating that the main factor in Milosevic's acceptance of terms "was the increasing inconveniences that the bombing campaign was causing in Belgrade and other cities." As in all strategic air campaigns against states, the list of acceptable bombing objectives expanded as the conflict continued. A broad definition of the term "dual-use" opened up a wide array of targets, including bridges, heating plants, and television stations, for NATO airmen. Black humor in Belgrade determined that even bakeries were valid targets because "soldiers also eat bread." Serb propaganda videos of the damage and casualties wreaked by NATO airpower in attacks on

cities, factories, and power plants gained some international sympathy, but the same images that fanned anti-NATO and anti-American sentiments also reinforced a sense of futility in the besieged civilian population, since the Serb military's air defenses seemed powerless to do anything to stop the mounting devastation. When the conflict ended, 45 percent of Yugoslavia's TV broadcast capability was degraded; a third of military and civilian radio relay networks were damaged; petroleum refining facilities were completely eliminated; and 70 percent of road and 50 percent of rail bridges across the Danube River were down. The whole regional economy was degraded for many years afterward.[39]

It is still unclear exactly why Milosevic gave in to NATO demands. He did get a better deal than the Rambouillet Accords offered in March 1999. We will probably never know exactly what the Russians advised him. Despite their vocal opposition to the bombing campaign, Russia did assist NATO by not upgrading outdated Yugoslav air defense systems. Open discussions about the possibility of a NATO ground invasion and an apparent growing willingness to gather peacekeeping forces in the region probably had some influence on Yugoslav leaders. But in the end, the air campaign did achieve the adjusted political goals. Postwar analysts highlighted growing fears among Serb leaders that the aerial assault would eventually escalate to the level of World War II city bombing, and the fact that the air attacks increasingly threatened the holdings of Milosevic's most important political supporters. However, there was no systematic, official evaluation conducted such like USSBS or GWAPS. In October 1999, Secretary of Defense William Cohen did present the findings of a Kosovo after action review conducted by

his office, but it does not represent a conclusive analysis of the impact of airpower. In fact, the written report submitted to Congress in January 2000 was so devoid of hard facts that Pentagon officials jokingly labeled it "fiber-free."[40]

Despite NATO's careful targeting, there was still much criticism of the campaign in the press. It does appear that the growing intensity of attacks on dual-use targets in Belgrade and other cities was significant in achieving NATO's political goals. Accordingly, there is a good probability that Yugoslav civilian casualties exceeded their military ones. For instance, soon after the conflict ended, Michael Dobbs estimated that the Serbs suffered 1,600 civilian casualties and only 1,000 military ones. Human Rights Watch completed a study later that lowered estimates of Yugoslav civilian dead to 500 from 90 separate attacks, but was still very critical of NATO targeting practices and concluded that half the casualties could have been avoided. This is particularly ironic considering the expectations for a bloodless war caricatured so well in Doonesbury cartoons and reinforced by NATO briefings on targeting accuracy.[41] These high NATO expectations for extremely low casualties on both sides helped convince the more reluctant coalition members to support the air campaign, and magnified the negative impact on alliance cohesion of each scene of civilian dead and wounded. Yet those same images also increased Serb fears and weakened their resolve. Ironically, such incidents appeared to have reduced the will to continue the conflict on both sides. Media images and accusations motivated UN war crimes prosecutors of the International Criminal Tribunal for the Former Yugoslavia to begin assessing evidence in December that NATO commanders had violated the laws of war with their

air attacks, an example of "lawfare" to limit the application of airpower. (They decided not to pursue formal charges.) Other war crimes charges coming from Amnesty International and the British Parliament's top foreign affairs panel criticized the bombing as being of "dubious legality." Michael Ignatieff has aptly pointed out that journalists' accounts of the maneuvering of cruise missiles in Iraq and fascination with precision munitions have reinforced a myth in Western publics that war can now be thought of as laser surgery. In the dogged pursuit of the ideal of "precision bombing," the USAF has improved its capabilities tremendously, but the term "surgical air strike" remains an oxymoron. Some targeting errors and technical failures will always occur, and blast effects are often unpredictable. The errant raid on the Chinese Embassy looks even more sinister when air forces claim operational perfection.[42]

When Secretary of Defense Donald Rumsfeld took office under the new administration of George W. Bush in 2001, he planned to cut ground forces and exploit the new capabilities of airpower. His course of action seemed vindicated that year by the campaign in Afghanistan, where U.S. Special Forces calling in air strikes enabled the Northern Alliance to quickly overthrow the Taliban. Analysts who looked closely at what happened in Afghanistan soon concluded that while airpower had definitely tipped the balance there, the presence of capable, indigenous allies with the proper skills and commitment to provide the necessary and unique ground force contribution was also essential for success. The tens of thousands of experienced fighters in the Northern Alliance were also an important part of the equation that would not usually be present in other potential theaters of operation, like Iraq.

The most astute of those studies cautioned, "Among the most serious potential errors stemming from a misreading of the Afghan campaign would be to underestimate the costs of future American military action," a variation on Ignatieff's concern about perceiving war as cheap and bloodless.[43] Indeed, Rumsfeld was so enamored with his vision of this new model for warfare that he sent military reform advocate Douglas Macgregor to U.S. Central Command (CENTCOM) headquarters in early 2002 to argue that all that would be needed to conquer Iraq would be a 15,000-soldier, armor-heavy ground force with plentiful air support, with an additional 15,000 infantry added later to stabilize the country. Though Macgregor was rebuffed, Rumsfeld continued to pressure CENTCOM to reduce the size of the invading and follow-on forces. His success at cutting the number of soldiers in Operation IRAQI FREEDOM based on these false assumptions about the future of warfare would have dire consequences later.[44]

As in Afghanistan, initial military operations in Iraq also seemed easy and effective, as dominant airpower decimated Saddam's conventional military. Collateral damage seemed minimized, and operational impact maximized, a seeming example of Ignatieff's "virtual war." However, the limitations of airpower became more apparent as insurgencies erupted in both countries. Perhaps the greatest flaw in the American preference for long-range precision strike is that whoever controls the ground controls the message. This is a particular difficulty with drone strikes. Prompt bomb damage assessment has never been a USAF strength, and enemies are very quick to spin images and reports of destroyed mosques and dead children, imagined or real. By the time such impressions are refuted or

a counternarrative presented, too many news cycles have passed and first impressions have become lasting ones. In wars among the people, perceptions are often more important than reality. Flaws in bomb damage assessment procedures causing delays within CENTCOM had been identified as far back as Operation DESERT STORM, but they remained to plague operations in Iraq and Afghanistan. The USAF was also reluctant to embrace emerging U.S. counterinsurgency (COIN) doctrine emphasizing information operations from the new FM 3-24 in 2006, claiming it was too "ground centric," instead pursuing their own doctrine while continuing to assert such wars could be won from 20,000 feet. In fact, service judge advocate Major General Charles Dunlap mounted a very active publicity campaign to protect service interests and discredit FM 3-24, an action Billy Mitchell would have been proud of.[45]

Airpower is still a very useful tool in such conflicts. Much of the success of the 2007 "surge" in Iraq was due to carefully planned air strikes. The main problem in both Afghanistan and Iraq has been with "on-call" missions without such detailed planning, where pressure for quick action is high and the amount of reliable intelligence is low. U.S. special operations forces have also been especially criticized for poor communication and coordination on air strikes. According to a detailed study of Afghanistan by Human Rights Watch, it was very clear that insurgent forces were killing more civilians than U.S. and NATO forces, but expectations were much higher for the counterinsurgents, and the Afghan Government reacted to reports of civilian casualties by demanding new restrictive rules of engagement and even a strict status of forces agreement. Such strike reports were gleefully exploited by the Taliban,

as the information undermined public confidence in the Afghan Government and its international allies. Already at odds with many of those allies over his performance, President Hamid Kharzai also used civilian casualties as a bludgeon against them.[46]

The poster child for the negative impact of erroneous expectations for airpower might be Libya. Former President Barack Obama admitted that his resort to airpower alone (along with European partners) in 2011 to overthrow Muammar Qaddafi without a corresponding ground force for control and rebuilding was the "worst mistake" of his administration. The end result was to turn that country into "Somalia on the Mediterranean." The backlash of that debacle had repercussions in Syria, where Chairman of the Joint Chiefs of Staff General Martin Dempsey repeatedly warned about the risks of just air strikes there, though in the end, the Obama administration again adopted an approach based primarily upon the application of airpower. The jury is still out about how effective it will be.[47]

There are many ironies in the American experience with strategic communications and airpower. The pursuit of precision has produced truly impressive capabilites; but even more exorbitant expectations, often fueled by service advocates seeking budget advantages or sincerely believing that the USAF had been maligned or neglected, and rarely informed by an objective evaluation of air campaigns. Success in selling those capabilities to decision-makers and actual accomplishments utilizing them in operations have further contributed to unrealistic expectations, with political leaders especially attempting to do too much with the wrong military tool. Americans have always had great faith in technology, a fact that has assisted

in the growth of the USAF while contributing to the weight of expectations that it bears. The current state of "counterinsurgency fatigue" in the United States with no desire to employ ground troops will increase burdens on airmen even more. It is not surprising that many in the international arena seek normative ways to limit the unique advantages airpower dominance brings to the United States, creating another potential obstacle.

Building on the legacy of Billy Mitchell and Hap Arnold to create and publicize a unique set of war-making capabilities, the USAF has become an unmatched air service that inspires unrealistic expectations for what American airpower can do. The hardest task for strategic communications from future U.S. military leaders will not be to explain all the great things that their aircraft can accomplish, but instead to honestly admit what they cannot.

RECOMMENDATIONS

Manage Expectations and Keep All Options Open

American military and civilian leaders must be absolutely straightforward with all audiences about the actual capabilities of airpower, and not just for limited strikes with precision munitions. As mentioned earlier, one of our most effective deterrents is the threat of massed air attacks, and that alternative must also be explained and kept available. Exaggerating the potential of airpower might be good for garnering budget dollars, but then its application is likely to lead to disillusionment and reduced deterrence value. In the worst case, inflated expectations of air attacks might lure the nation into a conflict, which will just produce

increased chaos on the ground, and will then require more significant investments of blood and treasure to remedy. Leaders must be careful to avoid premature declarations of success, and must acknowledge that the enemy gets a vote in the outcome of any military operation.

Educate Leaders and the Public

The attraction of airpower to political leaders is well-documented. They perceive it as a quick response without a major commitment, yet still promising decisive results with minimal destruction on both sides and essentially no risk of friendly casualties. Military leaders must educate politicians and the public at home and abroad that war is not a video game. Once violence is launched, its course cannot be accurately predicted. Intelligence is never perfect, blast effects often produce unexpected results, and the major drawback of so-called effects-based operations is that they always produce more unintended effects than intended ones. Though General Jacob Smart disdained revealing the limitations of airpower to either politicians or the press, those are the most important groups that really need to understand the realistic capabilities of airpower.

Be First with the Truth

Airmen must put as much effort into the timely assessment of the results of air operations as they do in planning them. A painstaking examination of an errant air strike that produces a long report a month after the event might be acceptable to the more tolerant American public, but for international and indigenous audiences, too many news cycles will have passed to

have any impact, and the negative narrative for the event will already have become locked in the public record. Such explanations must be produced in hours, not days or weeks. One of the true masters of information warfare in contemporary conflicts is General David Petraeus. Though he is identified most closely with the conduct of COIN, much of what has been classified in that category is really just modern warfare among the people. There is much in the COIN doctrine he helped develop and the way he applied it in Iraq that is relevant to the contemporary application of airpower. This third recommendation comes right out of his "Multi-National Force-Iraq Commander's Counterinsurgency Guidance." He stated:

> Get accurate information of significant activities to your chain of command, to Iraqi leaders, and to the press as soon as possible. Beat the insurgents, extremists, and criminals to the headlines, and pre-empt rumors. Integrity is critical to this fight. Don't put lipstick on pigs. Acknowledge setbacks and failures, and then state what we've learned and how we'll respond. Hold the press (and ourselves) accountable for accuracy, characterization, and context. Avoid spin and let facts speak for themselves. Challenge enemy disinformation. Turn our enemies' bankrupt messages, extremist ideologies, and oppressive violence against them.[48]

Fight the Information War Relentlessly

This is another tenet that is important to General Petraeus. American political and military leaders must actively engage continuously to counter lawfare initiatives to limit the application of airpower, no matter how well-intentioned. Coalition nations working with the United States must also be proactive with their own information campaigns, and not just counterpunch. Enemies must be put on the defensive. Coordinating

this effort for all the audiences concerned will require the participation and coordination of more than just airmen. Some sort of special information agency might be required at the theater or national levels. As General Petraeus stated for Iraq:

> Realize that we are in a struggle for legitimacy that in the end will be won or lost in the perception of the Iraqi people. Every action taken by the enemy and United States has implications in the public arena. Develop and sustain a narrative that works and continually drive the themes home through all forms of media.[49]

Invest More in Foreign Internal Defense

One of the easiest ways for the United States and its allies to avoid criticism about air strikes from supported governments and their people is to make sure such operations are conducted by their own indigenous air force. That will probably require building one. Such an organization not only provides supported nations with their own unique asymmetric military advantage, it also becomes a source of national pride. Such advisory support and assistance normally falls under the category of foreign internal defense. Most Western nations are usually very familiar with foreign internal defense for ground forces, but the requirements for an air force are different. For instance, while new ground units are best brought into combat situations very gradually, air units need to be thrown right into operations. Not only do they learn best that way, they also furnish a major boost for indigenous morale with their display of technological expertise.[50] Such forces usually do not require the most advanced aircraft. For instance, turboprop attack planes will often suffice for combat air support requirements in austere theaters, and they are

much cheaper and easier to maintain than jets. However, most supported nations usually want the same aircraft as the United States. It would be advantageous to maintain one squadron of such planes in the USAF just as an example for other nations.

ENDNOTES

1. The best biography of Mitchell is Alfred F. Hurley, *Billy Mitchell, Crusader for Air Power*, Bloomington, IN: Indiana University Press, 1975.

2. Ibid., pp. 6, 146-147; John F. Shiner, *Foulois and the U.S. Army Air Corps, 1931-1935*, Washington, DC: Office of Air Force History, 1983, p. 48.

3. For American dreams about the airplane, see Joseph J. Corn, *The Winged Gospel: America's Romance with Aviation, 1900-1950*, New York: Oxford, 1983. On the promotion of "air-mindedness," see Lieutenant Colonel Peter Faber, "Interwar US Army Aviation and the Air Corps Tactical School: Incubators of American Airpower," in Philip S. Meilinger, ed., *The Paths of Heaven: The Evolution of Airpower Theory*, Maxwell Air Force Base, AL: Air University Press, 1997.

4. All quotes can be found in General Henry Arnold to Carl Spaatz, September 15, 1942, Box 8, Papers of Carl Spaatz; and General Henry Arnold to General Ira Eaker, June 29, 1943, Box 16, Papers of Ira C. Eaker, Library of Congress, Washington, DC.

5. Ira Eaker to Lieutenant General Barney Giles, September 29, 1943, Eaker Papers; Arnold to Spaatz, September 26, 1944, and Giles to Spaatz, November 11, 1944, Box 16, Spaatz Papers; Giles to General Curtis LeMay, November 11, 1944, Box B11, Papers of Curtis LeMay, Library of Congress.

6. All quotes can be found in Arnold to Eaker, November 26, 1944, File 000.7, Box 57, Papers of Henry Arnold, Library of Congress.

7. All quotes can be found in Melden E. Smith, Jr., "The Bombing of Dresden Reconsidered: A Study in Wartime Decision

Making," Ph.D. dissertation, Boston, MA: Boston University, 1971, pp. 70-78; Tami Davis Biddle, "Dresden 1945: Reality, History, and Memory," *The Journal of Military History,* Vol. LXXII, April 2008, pp. 434-446; memo, Anderson to Spaatz, February 19, 1945, with msgs. UA64462, W39222, UA64470, W39730, UA64471, W39722, File K239.046-38; and General Frederick Anderson to General Laurence Kuter, February 27, 1945, File 519.1611, Air Force Historical Research Agency (AFHRA), Maxwell Air Force Base, AL.

8. All quotes in the previous two paragraphs can be found in Msg. UA 64555, Spaatz to Eaker, February 20, 1945, Box 23, Spaatz Papers; Diary of H. L. Stimson, March 5, 1945, New Haven, CT: Yale University Library, microfilm; Ronald Schaffer, *Wings of Judgment: American Bombing in World War II*, New York: Oxford, 1985, pp. 99-103; and "Report of Air Attacks on Targets in Dresden," File 519.523-6, AFHRA, Maxwell Air Force Base, AL.

9. All quotes can be found in March 1, 1945 Bombardment Policy with Anderson memo, Box 118, Papers of Nathan F. Twining, LC; Anderson to Kuter, March 26, 1945, File 519.1611, AFHRA, Maxwell Air Force Base, AL; Msg. WAR 65558, April 9, 1945, with Anderson response, April 10, 1945, Box 21, Spaatz Papers; and David Schlatter, diary, March 15, 1945, File 168.7052-5, AFHRA, Maxwell Air Force Base, AL.

10. All quotes can be found in *The New York Times*, March 11, 1945, pp. 1, 13.

11. All quotes in the previous three paragraphs can be found at Kenneth Werrell, *Blankets of Fire: U.S. Bombers over Japan during World War II*, Washington, DC: Smithsonian, 1996, p. 157; Wesley Frank Craven and James Lea Cate, *The Army Air Forces in World War II*, Vol. 5, Chicago, IL: University of Chicago Press, 1948-1958, pp. 624-625; Arnold to LeMay, March 21, 1945, and General Lauris Norstad to LeMay, April 3, 1945, Box B11, LeMay Papers; Giles to LeMay, April 20, 1945, Box 106, Arnold Papers; Warren Moscow, "51 Square Miles Burned Out In Six B-29 Attacks on Tokyo," *The New York Times*, May 30, 1945, pp. 1, 4; and Stimson diary, June 1 and 6, 1945.

12. All quotes can be found in Diary of Terminal Conference, July 10 through 30, 1945, entries for July 13, 15, 17, 23, and 24, 1945, Box 249, Arnold Papers.

13. *United States Strategic Bombing Survey: Summary Reports, 1945-1946*; reprint, Maxwell Air Force Base, AL: Air University Press, 1987, pp. 37-39, 110-113; Gian P. Gentile, *How Effective is Strategic Bombing? Lessons Learned from World War II to Kosovo*, New York: New York University Press, 2001, p. 193; Wesley Frank Craven and James Lea Cate, *The Army Air Forces in World War II*, Chicago, IL: University of Chicago Press, 1948-1958, p. 7.

14. Craven and Cate, 1948-1958.

15. Herman S. Wolk, *Planning and Organizing the Postwar Air Force 1943-1947*, Washington, DC: Office of Air Force History, 1984, pp. 145-148; David R. Mets, *Master of Airpower: General Carl A. Spaatz*, Novato, CA: Presidio Press, 1988, pp. 311-331; Walton S. Moody, *Building a Strategic Air Force*, Washington, DC: Air Force History and Museums Program, 1996, p. 329.

16. All quotes can be found in Robert Frank Futrell, *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force*, Vol. I, 1907-1960, Maxwell Air Force Base, AL: Air University Press, 1989 reprint of 1971 publication, pp. 373-379; Major General Orville Anderson, "Air Warfare and Morality," *Air University Quarterly Review II*, Winter 1949, p. 14; and Letter, Ira Eaker to Thomas Power, May 1960, p. 6, with May 10 reply and attached copy of Jerry Greene's "Capital Circus" newspaper column for April 25, 1960, Thomas S. Power Manuscript Collection, Syracuse, NY: George Arents Research Library for Special Collections, Syracuse University.

17. Interview of General (Ret.) Jacob E. Smart by Lieutenant Colonel Conrad Crane, November 2, 1997, Arlington, VA, with changes provided by letter from General Smart on November 29, 97, pp. 7-8, in possession of the author.

18. General O. P. Weyland, "The Air Campaign in Korea," *Air University Quarterly Review*, Vol. VI, Fall 1953, pp. 3-28. For a discussion of the reasons for the end of the war and the USAF role in achieving it, see Conrad C. Crane, *American Airpower Strategy in*

Korea, 1950-1953, Lawrence, KS: University Press of Kansas, 2000, pp. 155-170.

19. Interview of Lieutenant General James T. Stewart by Colonel Charles Andrean, 1986, pp. 191-193, U.S. Army Military History Institute Senior Officer Oral History Program, The James T. Stewart Papers, U.S. Army Military History Institute, U.S. Army Heritage and Education Center, Carlisle, PA; James T. Stewart, ed., *Airpower, The Decisive Force in Korea*, Princeton, NJ: Van Nostrand Co., 1957; Robert Frank Futrell, *The United States Air Force in Korea, 1950-1953*, Washington, DC: U.S. Government Printing Office, 1983 revision of 1959 edition.

20. Major Joseph Connor, Jr., Staff Study, Subject: Fear of Flying and Lack of Motivation to Fly, March 5, 1952; memo, Colonel Emmett Cassady to General Richard Grussendorf, SUBJECT: Personal Views on Problems Presented by Major Connor in his Study of Fear of Flying and Lack of Motivation to Learn to Fly, March 25, 1952, File 15, Box 84, Papers of Hoyt Vandenberg, LC; Corn, pp. 132-133. Cassady proposed the idea for the USAF to subsidize Caniff's comic strip, "Steve Canyon."

21. Mark Clodfelter, *The Limits of Airpower: The American Bombing of North Vietnam*, New York: Free Press, 1989, p. 29; Interview of General Jacob Smart by Dr. Edgar Puryear, June 10, 1980, pp. 2, 17, File K239.0512-1497, AFHRA, Maxwell Air Force Base, AL; Document M-501, Interview with Curtis LeMay, August 17, 1975, in David Culbert, ed., *Film and Propaganda in America: A Documentary History*, Vol. V, Microfiche Supplement, 1939-1979, Westport, CT: Greenwood Press, 1993. LeMay thought *Gathering of Eagles* came closest to showing a true picture of SAC, though he did not particularly like any of Hollywood's depictions. Information on Power, including the draft of his book, can be found in The Thomas S. Power Manuscript Collection.

22. Earl H. Tilford, *Crosswinds: The Air Force's Setup in Vietnam*, College Station, TX: Texas A&M University Press, 1993; Caroline F. Ziemke, "In the Shadow of the Giant: USAF Tactical Air Command in the Era of Strategic Bombing, 1945-1955," Ph.D. dissertation, Columbus, OH: Ohio State University, 1989, p. 303; Dennis Drew, "Air Theory, Air Force, and Low Intensity Conflict: A Short Journey to Confusion," in Phillip S. Meilinger, ed., *The Paths of Heaven*, p. 334; J. Lawton Collins, *War in Peacetime:*

The History and Lessons of Korea, Boston, MA: Houghton Mifflin, 1969, p. 313; James A. Winnefeld and Dana J. Johnson, *Joint Air Operations: Pursuit of Unity in Command and Control, 1942-1991*, Annapolis, MD: Naval Institute Press, 1993, pp. 63-82; HQ USAF, *Summary of an Evaluation of the United States Air Force in Korea*, pp. 1-2, File 160.041-1, AFHRA, Maxwell Air Force Base, AL. For an insightful analysis of the way the Korean experience shaped the actions of American civilian leaders early in the Vietnam war, see Yuen Foong Khong, *Analogies at War: Korea, Munich, Dien Bien Phu, and the Vietnam Decisions of 1965*, Princeton, NJ: Princeton University Press, 1992, pp. 97-147.

23. Matthew B. Ridgway, *The Korean War*, New York: Popular Library, 1967, p. 238.

24. Clodfelter, *The Limits of Airpower*, pp. 39-146.

25. Eschmann, *Linebacker: The Untold Story of the Air Raids over North Vietnam*, New York: Ivy Books, 1989, pp. 202-203.

26. Ibid.; John F. Kreis, *Air Warfare and Air Base Air Defense*, Washington, DC: Office of Air Force History, 1988, pp. 293-296; editorial, *Air Force Magazine*, April 1973, p. 3.

27. Clodfelter, *The Limits of Airpower*, pp. 194-210; for a USAF view on the effects of political restrictions, see General William M. Momyer, *Air Power in Three Wars*, Washington, DC: U.S. Government Printing Office, 1978. The "Dien Bien Phu of the air" description comes from a display board at the museum, which the author visited in 2004.

28. U.S. Department of the Air Force, White Paper: "Air Force Performance in Desert Storm," Washington, DC: U.S. Government Printing Office, April 1991, pp. 1-2; Tom Mathews, "The Secret History of the War," *Newsweek*, Vol. 111, March 18, 1991, p. 36.

29. U.S. Department of the Air Force, White Paper: Air Force Performance in Desert Storm, pp. 1-2; Tom Mathews, "The Secret History of the War," p. 36. Gentile, *How Effective is Strategic Bombing?* pp. 167-190.

30. Yasuo Kurata, "Americans Are Insensitive to Casualties Because Their Country Hasn't Been Bombed," *Kansas City Star*, May 5, 1991, sec. K, p. 2.

31. Benjamin S. Lambeth, *The Unseen War: Allied Air Power and the Takedown of Saddam Hussein*, Annapolis, MD: Naval Institute Press, 2013, pp. 122-123, 228-231.

32. For example, see IRIS Independent Research, "Airpower and the Iraqi Offensive at Khafji," Arlington, VA, 1997.

33. Deputy Chief of Staff for Doctrine, *Reader's Guide: FM 100-5, 1986-1993 Comparison*, Fort Monroe, VA: U.S. Training and Doctrine Command, 1993.

34. John Keegan, "West Claimed Moral High Ground With Air Power," *London Daily Telegraph*, January 16, 2001; Harlan K. Ullman and James P. Wade with L.A. "Bud" Edney, Fred M. Franks, Charles A. Horner, Jonathan T. Howe, and Keith Brendley, *Shock & Awe: Achieving Rapid Dominance*, Washington, DC: National Defense University, 1996.

35. Central Intelligence Agency, Office of Russian and European Analysis, *Balkan Battlegrounds: A Military History of the Yugoslav Conflict, 1990-1995*, Washington, DC: Central Intelligence Agency, 2002, pp. 119-396; Robert C. Owen, ed., *Deliberate Force: A Case Study in Effective Air Campaigning*, Maxwell Air Force Base, AL: Air University Press, 2000.

36. For the stated objectives of the bombing campaign, see R. W. Apple, "A Fresh Set of U.S. Goals," *The New York Times,* March 25, 1999, p. A1, and the text of President Clinton's speech, p. A15, in the same issue. On the Serb use of decoys and estimates of damage, see Steven Lee Myers, "Damage to Serb Military Less Than Expected," *The New York Times*, June 28, 1999, p. 1. On how NATO damage estimates matched their findings after occupying Kosovo, see Richard J. Newman, "The bombs that failed in Kosovo," *U.S. News and World Report*, Vol. 127, September 20, 1999, pp. 28-30.

37. Michael Ignatieff, *Virtual War: Kosovo and Beyond*, New York: Henry Holt, 2000, pp. 96-103.

38. Ibid., pp. 101-108; Rebecca Grant, *The Kosovo Campaign: Aerospace Power Made it Work*, Arlington, VA: The Air Force Association, 1999, p. 22.

39. Michael Dobbs, "Post-Mortem on NATO's Bombing Campaign," T*he Washington Post National Weekly Edition*, July 19-26, 1999, p. 23; Grant, p. 22.

40. John Barry and Evan Thomas, "The Kosovo cover-up," *Newsweek*, May 15, 2000, pp. 22-26. The best analyses of the air campaign are Stephen T. Hosmer, *The Conflict Over Kosovo: Why Milosevic Decided to Settle When He Did*, Santa Monica, CA: RAND Corporation, 2001; and Benjamin S. Lambeth, *NATO's Air War for Kosovo: A Strategic and Operational Assessment*, Santa Monica, CA: RAND Corporation, 2001. While both authors wrote studies for RAND at the same time, they came up with very different conclusions.

41. Dobbs, p. 23; Elizabeth Becker, "Rights Group Says NATO Killed 500 Civilians in Kosovo War," *The New York Times*, February 7, 2000, p. A10; Doonesbury cartoons on the Kosovo bombing ran in early May 1999.

42. Charles Trueheart, "War Crimes Court is Looking at NATO," *The Washington Post*, December 29, 1999, p. A20; Jamie Dettmer and Jennifer G. Hickey, "British MPs question legality of Kosovo intervention," *Insight on the News*, July 3-10, 2000, p. 6; Michael Ignatieff, *Virtual War: Kosovo and Beyond*, New York: Henry Holt, 2000, pp. 91-92, 210-215.

43. Stephen Biddle, *Afghanistan and the Future of Warfare: Implications for Army and Defense Policy*, Carlisle, PA: Strategic Studies Institute, U.S. Army War College, 2002, p. 54.

44. Michael R. Gordon and General Bernard E. Trainor, *Cobra II: The Inside Story of the Invasion and Occupation of Iraq*, New York: Pantheon, 2006, pp. 19-37.

45. Benjamin S. Lambeth, *The Unseen War: Allied Air Power and the Takedown of Saddam Hussein*, Annapolis, MD: Naval Institute Press, 2013, pp. 271-276; Conrad C. Crane, "Doctrine: The United States," in Thomas Rid and Thomas Keaney, eds., *Understanding Counterinsurgency*, London, UK: Routledge, 2010, pp. 59-71;

Conrad C. Crane, *Cassandra in Oz: Counterinsurgency and Future War*, Annapolis, MD: Naval Institute Press, 2016, pp. 133-135.

46. Marc Garlasco, *"Troops in Contact": Airstrikes and Civilian Deaths in Afghanistan*, New York: Human Rights Watch, 2008.

47. Dominic Tierney, "The Legacy of Obama's 'Worst Mistake'," *The Atlantic*, April 15, 2016, available from *http://www.theatlantic.com/international/archive/2016/04/obamas-worst-mistake-libya/478461/*; Spencer Ackerman, "General Dempsey's warnings could go unheeded if Obama opts to strike," *The Guardian*, August 29, 2013, available from *http://www.theguardian.com/world/2013/aug/29/general-martin-dempsey-obama-syria*.

48. David H. Petraeus, "Multi-National Force-Iraq Commander's Counterinsurgency Guidance," Headquarters, Multi-National Force-Iraq, June 21, 2008, p. 2.

49. Ibid., p. 3.

50. Lieutenant Colonel John Cairney, *Considerations in Working with Partner Air Forces-Context and Culture*, Carlisle, PA: U.S. Army War College, 2010.

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