



Map of Kosovo

On March 24, 1999, NATO embarked on a 78-day air war aimed at compelling the government of Yugoslavia and its elected president, Slobodan Milosevic, to halt and reverse the human rights abuses that were being committed by armed Serbs against the ethnic Albanian majority living in Yugoslavia's Serbian province of Kosovo. That effort, called Operation Allied Force, ended on June 9 after Milosevic finally acceded to NATO's demands and a withdrawal of Serb forces from Kosovo had begun. The air war was a first of that magnitude for NATO and represented the third largest strategic application of air power by the United States since World War II, exceeded only by the Vietnam War and Operation Desert Storm in scale and intensity.

With a view toward capturing the many useful insights to be extracted from that experience, the U.S. Air Force chief of staff, General Michael Ryan, asked Headquarters United States Air Forces in Europe (Hq USAFE) shortly after Allied Force ended to establish a studies and analysis office (USAFE/SA) to manage all USAF-sponsored assessments of the air war. The director of that office, Brigadier General John Corley, in turn asked RAND's Project AIR FORCE to contribute to the assessment effort across a wide spectrum of topics, ranging from individual platform and systems performance to command and control, operational support, strategy and planning, and other considerations bearing on the air war's effectiveness.

This book examines the conduct and results of Operation Allied Force at the strategic and operational levels. An earlier and less developed version appeared as a chapter in the author's previous book *The Transformation of American Air Power*, which was published by Cornell University Press in September 2000. The research docu-

mented herein was carried out in Project AIR FORCE's Strategy and Doctrine Program and was completed in August 2001. All photographs included in this study were provided by the U.S. Department of Defense. The book should be of interest to USAF officers and other members of the U.S. national security community concerned with strategy and force employment issues raised by NATO's air war for Kosovo and with the implications of that experience for force development, air power doctrine, and concepts of operations for joint and coalition warfare.

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SUMMARY

Between March 24 and June 9, 1999, NATO, led by the United States, conducted an air war against Yugoslavia in an effort to halt and reverse the human-rights abuses that were being committed against the citizens of its Kosovo province by Yugoslavia's president, Slobodan Milosevic. That 78-day air war, called Operation Allied Force, represented the third time during the 1990s in which air power proved pivotal in determining the outcome of a regional conflict. Yet notwithstanding its ultimate success, what began as a hopeful gambit for producing Milosevic's quick compliance soon devolved, for a time at least, into a seemingly ineffectual bombing experiment with no clear end in sight. Not only was the operation's execution hampered by uncooperative weather and a surprisingly resilient opponent, it was further afflicted by persistent hesitancy on the part of U.S. and NATO political leaders and sharp differences of opinion within the most senior U.S. military command element over the most effective way of applying allied air power against Serb assets. Moreover, the plan ultimately adopted ruled out any backstopping by allied ground troops because of concerns over the potential for a land invasion to generate unacceptable casualties and the consequent low likelihood of mustering the needed congressional and allied support for such an option. All planning further assumed that NATO's most crucial vulnerable area was its continued cohesion. Therefore, any target or attack tactic deemed even remotely likely to undermine that cohesion, such as the loss of friendly aircrews, excessive collateral damage, or anything else that might weaken domestic support, was to be most carefully considered, if not avoided altogether. All of that, however unavoidable some aspects of it may have been, made

NATO's air war for Kosovo a step backward in efficiency when compared to the Desert Storm air campaign.

WHY MILOSEVIC GAVE UP WHEN HE DID

We may never know for sure what mix of pressures and inducements ultimately led Milosevic to admit defeat. Yet why he gave in and why he did so when he did are by far the most important questions about the operation's experience, since the answers, insofar as they are knowable, may help illuminate the coercive dynamic that ultimately swung the air war's outcome.

One can, of course, insist that air power alone was the cause of Milosevic's capitulation in the tautological sense that Allied Force was an air-only operation and that in its absence, there would have been no reason for believing that he would have acceded to NATO's demands. Yet as crucial as the 78-day bombing effort was in bringing Milosevic to heel, one should be wary of any intimation that NATO's use of air power produced a successful result for the alliance without any significant contribution by other factors. For example, beyond the obvious damage that was being caused by NATO's air attacks and the equally obvious fact that NATO could have continued bombing both indefinitely and with virtual impunity, another likely factor behind Milosevic's capitulation was the fact that the sheer depravity of Serbian conduct in Kosovo had stripped the Yugoslavian leader of any remaining vestige of international support, including, in the end, from his principal backers in Moscow.

On top of that was the sense of walls closing in that Milosevic must have had when he was indicted as a war criminal by a UN tribunal only a week before his loss of Moscow's support. Yet a third factor may have been the mounting pressure from Milosevic's cronies among the Yugoslav civilian oligarchy, prompted by the continued bombing of military-related industries, utilities, and other infrastructure targets in and around Belgrade in which they had an economic stake and whose destruction increasingly threatened to bankrupt them.

Finally, one must take into account what Milosevic no doubt perceived, rightly or wrongly, to have been the possibility of an eventual

NATO ground invasion. Whatever NATO's declared stance on the ground-war issue may have been, its actions as the bombing progressed spoke louder than its words. By the end of May, it had become clear that the alliance was beginning to come to grips with the necessity for a ground intervention of some sort if the bombing did not produce the desired result soon. Milosevic knew that and fully appreciated what it meant for his political fortunes.

Some, however, have made more of that fact than the evidence warrants. In the early wake of the successful conclusion of Allied Force, revisionist claims began emanating from some quarters suggesting that the air effort had been totally ineffective and that, in the end, it had been Milosevic's fear of a NATO ground invasion that had induced him to capitulate. Those claims defy believability because any NATO ground invasion, however probable it may have been in the end, would have taken months, at a minimum, to prepare for and successfully mount.

In contrast, Milosevic was living with the daily reality of an increasingly brutal air war that was showing no sign of abating. Although the effort to find and attack dispersed and hidden enemy forces in Kosovo was consuming the preponderance of ground-attack sorties while accomplishing little by way of tangible results on the ground, more and more infrastructure targets were also being approved and struck every day. Accordingly, there is no basis for concluding that the mere possibility of an eventual land invasion somehow overshadowed the continuing reality of NATO's air attacks as the preeminent consideration accounting for Milosevic's decision to capitulate. The bombing ultimately persuaded Milosevic that NATO not only would not relent, but also was determined to prevail and had both the technical and political wherewithal to do so. By the same token, given the incapacity of Serb air defenses to shoot down significant numbers of allied aircraft, the bombing further convinced him that his own defeat was inevitable sooner or later.

FRICTION AND OPERATIONAL PROBLEMS

Although NATO's use of air power in Allied Force must, in the end, be adjudged a success, some troubling questions arose well before the operation's favorable outcome over a number of disconcerting

problems that were encountered along the way. Among those arousing the greatest concern were the following:

- Assessed deficiencies in the suppression of enemy air defenses (SEAD).
- Locating, identifying, and engaging dispersed and hidden enemy light infantry forces in Kosovo.
- Inadvertent civilian casualties.

In contrast to the far more satisfying SEAD experience in Desert Storm, the effort to neutralize Serb air defenses did not go nearly as well as hoped. The Serbs kept most of their surface-to-air missiles (SAMs) in standby mode with their radars not emitting, prompting concern that they were attempting to draw NATO aircraft down to lower altitudes where they could be more easily engaged. The understandable reluctance of enemy SAM operators to emit and thus render themselves cooperative targets made them much harder to find and attack, forcing allied aircrews to remain constantly alert to the radar-guided SAM threat. By the same token, the enemy's heavy man-portable air defense system (MANPADS) and antiaircraft artillery (AAA) threat forced allied aircrews to bomb from above 15,000 ft, for the most part, to remain outside their lethal envelopes. Moreover, because of the mountainous terrain of Kosovo, the moving target indicator and synthetic aperture radar aboard the E-8 Joint STARS could not detect targets at oblique look angles, although the sensors carried by the higher-flying U-2 often compensated for this shortfall. On the plus side, although enemy SAM operators aggressively attempted to engage allied aircraft throughout the air war, superior allied SEAD operations forced them to employ emission control and mobility tactics to enhance their survivability, which significantly decreased their effectiveness. In the end, only two NATO aircraft were brought down by enemy fire, thanks to allied reliance on electronic jamming, the use of towed decoys, and countertactics to negate enemy surface-to-air defenses. However, NATO never fully succeeded in neutralizing the enemy's radar-guided SAM threat, even though no areas of enemy territory were denied.

Still another disappointment centered on what turned out to be NATO's almost completely ineffective efforts to engage mobile en-

emy troops operating in Kosovo. That disappointment underscored the limits of conducting air strikes against dispersed enemy forces hiding in favorable terrain in the absence of a supporting allied ground threat. Had Serb commanders any reason to fear a NATO ground invasion, they would have had little alternative but to position their tanks to cut off roads and other avenues of attack, thus making their forces more easily targetable by NATO air power. Instead, having dispersed and hidden their tanks and armored personnel carriers, Serb army and paramilitary units were free to go in with just a few troops in a single vehicle to terrorize a village in connection with their ethnic cleansing campaign.

Senior civilian defense officials and U.S. Air Force leaders freely conceded after the Serbian withdrawal that the problems encountered by the largely failed effort against fielded enemy forces reflected real challenges for the effective application of air power posed by such impediments as trees, mountains, poor weather, and an enemy ground force that is permitted the luxury of dispersing and hiding rather than concentrating to maneuver to accomplish its mission. Yet while it was essential for NATO to try its best to keep Serb forces pinned down and incapable of operating at will, the majority of the sorties devoted to finding and attacking enemy troops in Kosovo entailed an inefficient and ineffective use of munitions and other valuable assets. That said, the targeting of enemy ground forces operating within Kosovo was an inescapable political necessity, considering that those forces were responsible for committing the ethnic cleansing acts that NATO had vowed to stop. Failure to target those forces would almost certainly have caused the bombing effort to lose credibility in the eyes of the NATO civilian leadership.

Pressures to avoid civilian casualties and unintended damage to nonmilitary structures were greater in Allied Force than in any previous combat operation involving U.S. forces. Nevertheless, there were recurrent instances throughout the air war of unintended damage caused either by errant NATO munitions or by mistakes in targeting, including a dozen highly publicized incidents in which civilians were accidentally killed. One such bombing error resulted in part from constraints imposed by the requirement that NATO aircrews remain above 15,000 ft to avoid the most lethal enemy threats, making visual discrimination between military and civilian traffic more than routinely difficult. Another contributing factor was the occasional ten-

dency of allied aircrews to maneuver their aircraft in such a way as to put clouds within the targeting pod's field of view between the aircraft and the target, thus blocking the laser beam illuminating the target and depriving the weapon of guidance. Moreover, Serb forces often used civilians as human shields in an effort to deter NATO from attacking military vehicles. The extraordinary media attention given to these events bore ample witness to what can happen when zero noncombatant casualties becomes not only a goal of strategy but also the international expectation. Thanks to unrealistic efforts to treat the normal friction of war as avoidable human error, every occurrence of unintended collateral damage became overinflated as front-page news and treated as a blemish on air power's presumed ability to be consistently precise.

LAPSES IN STRATEGY AND IMPLEMENTATION

NATO's leaders also had little to congratulate themselves about when it came to the way in which the air war was planned and carried out. There was a dominant sense among participants and observers alike that the desultory onset of Allied Force and its later slowness to register effects reflected some fundamental failures of allied leadership and strategy choice. In contrast to the relatively seamless performance by the coalition in Desert Storm, what unfolded during NATO's air war for Kosovo was a highly dissatisfying application of air power, which showed not only the predictable fits and starts of trying to prosecute an air operation through an alliance of 19 members bound by a unanimity rule, but also some failures even within the operation's U.S. component to make the most of what air power had to offer within the limits of the effort's political constraints.

To begin with, the conduct of the air war as an allied effort came at the cost of a flawed strategy that was further hobbled by the manifold inefficiencies that were part and parcel of conducting combat operations by consensus. In addition to the natural friction created by NATO's approach to target approval, the initial reluctance of its political leaders to countenance a more aggressive air campaign in terms of target numbers and force size failed completely to capitalize on air power's potential for taking down entire systems of enemy capability simultaneously. Further compounding the inefficiency of

this multistage and circuitous process, two parallel but separate mechanisms for mission planning and air tasking were used. Any U.S.-specific systems involving special sensitivities, such as the B-2, F-117, and cruise missiles, were allocated by U.S. European Command (USEUCOM) rather than by NATO, and the Combined Air Operations Center (CAOC) maintained separate targeting teams for USEUCOM and NATO strike planning.

Because NATO had initially hoped that the operation would last only a few days, it failed to establish a smoothly running mechanism for target development and review until late April. Once NATO's going-in assumption proved hollow, a frenetic rush ensued to come up with additional target nominations that could be more quickly and easily approved by NATO's political authorities. Even then, there was little by way of a consistently applied strategy behind the target development process. Most of the attack planning done throughout the air war was not driven by desired effects, but rather entailed simply parceling out sortie and munitions allocations by target category as individual targets were approved, without much consideration given to how a target's neutralization might contribute toward advancing the overall objectives of the air war.

It was not only the alliance-induced friction that helped make for an inefficient bombing effort. As Allied Force unfolded, it became increasingly clear that even the U.S. military component was divided in a high-level struggle over the most appropriate targeting strategy—reminiscent of the feuding that had occurred nine years earlier between the Army's corps commanders and the joint force air component commander (JFACC), then-Lieutenant General Charles Horner, over the ownership and control of air operations in Desert Storm. Once the initial hope that Milosevic would fold within a few days after the bombing started proved groundless, NATO was forced into a scramble to develop an alternative strategy. The immediate result was an internecine battle between the Supreme Allied Commander in Europe, U.S. Army General Wesley Clark, and his air component commander, USAF Lieutenant General Michael Short, over where the air attacks should be primarily directed. Short maintained that the most effective use of allied air power would be to pay little heed to dispersed Serbian forces in Kosovo and to concentrate instead on infrastructure targets in and around Belgrade, including key electrical power plants and government ministries. However, Clark in-

sisted, as was his command prerogative, upon concentrating on elusive enemy ground troops in Kosovo, and this targeting emphasis prevailed throughout most of the air war.

Despite the success of Allied Force in the end, one misjudgment of near-blunder proportions came close to saddling the United States and NATO with a costly and embarrassing failure. The worst call by NATO's leaders was their assumption that what had worked for Bosnia would work for Kosovo and their resultant failure to appreciate the special importance of Kosovo to the Serbs and its criticality to Milosevic's survival in power. Fortunately for the allies, their faulty assessment was not a show-stopper—although it could have been if Milosevic had refrained from launching his ethnic cleansing campaign and instead merely hunkered down to wait out the bombing in a win-or-lose contest of wills with NATO. Had he done so, he could have threatened the long-term viability of the alliance. Fortunately for the success of Allied Force, by opting instead to accelerate his ethnic cleansing of Kosovo, he helped unite Western opinion behind NATO and left NATO with no choice but to dig in for the long haul, not only to secure an outcome that would allow for the repatriation of nearly a million displaced Kosovars, but also to ensure its continued credibility as an alliance.

NATO'S AIR WAR IN PERSPECTIVE

Operation Allied Force was the most intense and sustained military operation to have been conducted in Europe since the end of World War II. It represented the first extended use of military force by NATO, as well as the first major combat operation conducted for humanitarian objectives against a state committing atrocities within its own borders. It was the longest U.S. combat operation to have taken place since the war in Vietnam. At a price tag of more than \$3 billion, it was also a notably expensive one. Yet in part because of that investment, it turned out to have been an unprecedented exercise in the discriminate use of force on a large scale. In all, out of some 28,000 high-explosive munitions expended over the operation's 78-day course, no more than 500 noncombatants died as a direct result of errant attacks.

After the bombing ended, the predominant tendency among most outside observers was to characterize that effort as a watershed

achievement for air power. Yet with all due respect for the unmatched professionalism of the aircrews who actually carried out the air war, it is hard to accept that characterization as the proper conclusion to be drawn from Allied Force. To be sure, there is much to be said of a positive nature about NATO's air war for Kosovo. To begin with, it did indeed represent the first time in which air power coerced an enemy leader to yield with no friendly land combat action whatsoever. This does not mean that air power can now "win wars alone" or that the air-only strategy ultimately adopted by NATO's leaders was the wisest choice available to them. Yet the fact that air power prevailed on its own despite the multiple drawbacks of a reluctant administration, a divided Congress, an indifferent public, a potentially fractious alliance, a determined opponent, and—not least—the absence of a credible NATO strategy surely testified that the air instrument has come a long way in recent years in its *relative* combat leverage compared to that of other force elements in joint warfare.

The two most important accomplishments of the air war occurred at the strategic level and had to do with the performance of the alliance as a combat collective. First, despite the suggestion of some critics to the contrary, NATO clearly prevailed over Milosevic. Although NATO's air strikes were unable to halt Milosevic's ethnic cleansing campaign before it had been essentially completed, they did succeed in completely reversing its effects in the early aftermath of the ceasefire by forcing Milosevic to accept NATO's demands. Second, NATO showed that it could operate successfully under pressure as an alliance, even in the face of constant hesitancy and reluctance on the part of many of the member states' political leaders. For all the air effort's fits and starts and the manifold frustrations they caused, the alliance earned justified credit for having done remarkably well in a uniquely challenging situation. In seeing Allied Force to a successful conclusion, NATO did something that it had been neither created nor configured to do.

Despite these accomplishments, there were enough disappointments to suggest that instead of basking in the glow of air power's successful performance, air warfare professionals should give careful thought to the hard work that still needs to be done if air power's fullest potential in joint warfare is to be realized. As with the operation's successes, the biggest failings of Allied Force occurred in the

realm of strategy and execution. First, despite its successful outcome and through no fault of allied airmen, the bombing effort was a sub-optimal application of air power. The incremental plan chosen by NATO's leaders risked squandering much of the capital that had been built up in air power's account ever since its success in Desert Storm nearly a decade before. Almost without question, the first month of underachievement in the air war convinced Milosevic that he could ride out the NATO attacks. Indeed, the way Operation Allied Force commenced violated two of the most enduring axioms of military practice: the importance of achieving surprise and the criticality of keeping the enemy unclear as to one's intentions. The acceptance by NATO's leaders of a strategy that ruled out a ground threat from the very start and envisaged only gradually escalating air strikes to inflict pain was a guaranteed recipe for downstream trouble, even though it was the only strategy that, at the time, seemed politically workable.

Although the manner in which the air war was conducted fell short of the ideal use of air power, it suggested that gradualism may be here to stay if U.S. leaders ever again intend to fight with coalition partners for marginal or amorphous interests. Insofar as gradualism promises to be the wave of the future, it suggests that airmen will need to discipline their natural inclination to bridle whenever politicians moderate the application of a doctrinally pure campaign strategy and to recognize and accept instead that political considerations, after all, determine—or should determine—the way in which campaigns and wars are fought. This does not mean that military leaders should surrender to political pressures without first making their best case for using force in the most effective and cost-minimizing way. It does, however, stand as an important reminder that war is ultimately about politics and that civilian control of the military is an inherent part of the democratic tradition. Although air warfare professionals, like all other warfighters, are duty-bound to try to persuade their civilian superiors of the merits of their recommendations, they also have a duty to live with the hands they are dealt and to bend every effort to make the most of them in an imperfect world. It follows that civilian leaders at the highest levels have an equal obligation to try to stack the deck in such a way that the military has the best possible hand to play and the fullest possible freedom to play it to the best of its ability. This means expending the energy and politi-

cal capital needed to develop and enforce a strategy that maximizes the probability of military success. That was not done by the vast majority of the topmost civilian leaders on either side of the Atlantic in Allied Force.

On the plus side, the operation's successful outcome—despite its many frustrations—suggests that U.S. air power may now have become capable enough to underwrite a strategy of incremental escalation irrespective of that strategy's inherent inefficiencies. What made the gradualism of Allied Force more bearable than that of the earlier war in Vietnam was that NATO's advantages in stealth, precision standoff attack, and electronic warfare meant that it could fight a one-sided war against Milosevic with near-impunity and achieve its desired result, even if not in the most ideal way. That was not an option when U.S. air power was a less developed tool than it is today.

One of the most important realizations to emerge from Allied Force had to do with the opportunity costs incurred by NATO's anemic start of its air attacks without an accompanying ground threat. They included the following:

- A failure to exploit air power's inherent shock potential and to instill in Milosevic an early fear of worse consequences yet to come.
- The encouragement the initial lack of a NATO ground threat gave enemy troops to disperse and hide while they had time.
- The virtual *carte blanche* that lack gave Milosevic for accelerated atrocities in Kosovo.
- The relinquishment of the power of the initiative to the enemy.

These problems identified by the Allied Force experience suggest an important corrective to the unending argument between airmen and land combatants over the relative combat merits of air power versus "boots on the ground." Although Allied Force reconfirmed that friendly ground forces no longer need to be inexorably committed to combat early, it also reconfirmed that air power in many cases cannot perform to its fullest potential without the presence of a credible ground component in the overall allied strategy.

ON THE USES AND ABUSES OF AIR POWER

Viewed in hindsight, the most remarkable thing about Operation Allied Force is not that it defeated Milosevic in the end, but rather that air power prevailed despite a NATO leadership that was unwilling to take major risks and an alliance that held together only with often paralyzing drag. Lesson One from both Vietnam and Desert Storm should have been that one must not commit air power in “penny packets,” as the British say, to play less-than-determined games with the risk calculus of the other side. Although it can be surgically precise when precision is called for, air power is, at bottom, a blunt instrument designed to break things and kill people in pursuit of clear and militarily achievable objectives.

To admit that gradualism may be the wave of the future for any U.S. involvement in coalition warfare is hardly to accept that it is any more justifiable from a military point of view for that reason alone. Quite to the contrary, the incrementalism of NATO's air war for Kosovo, right up to its very end, involved a potential price that went far beyond the loss of valuable aircraft and other expendables for questionable gain. It risked frittering away the hard-earned reputation for effectiveness that U.S. air power had finally earned for itself in Desert Storm after more than three years of unqualified misuse over North Vietnam a generation earlier.

As the Gulf War experience showed, and as both Deliberate Force and Allied Force ultimately reaffirmed, U.S. air power as it has evolved since the mid-1970s can do remarkable things when employed with determination in support of a campaign whose intent is not in doubt. Yet to conjure up the specter of “air strikes”—NATO or otherwise—in an effort to project an appearance of “doing something” without a prior weighing of intended effects or likely consequences is to run the risk of getting bogged down in an operation with no plausible theory of success. After years of false promises by its most outspoken prophets, air power has become an unprecedentedly capable instrument of force employment in joint warfare. Even in the best of circumstances, however, it can never be more effective than the strategy it is intended to support.

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