



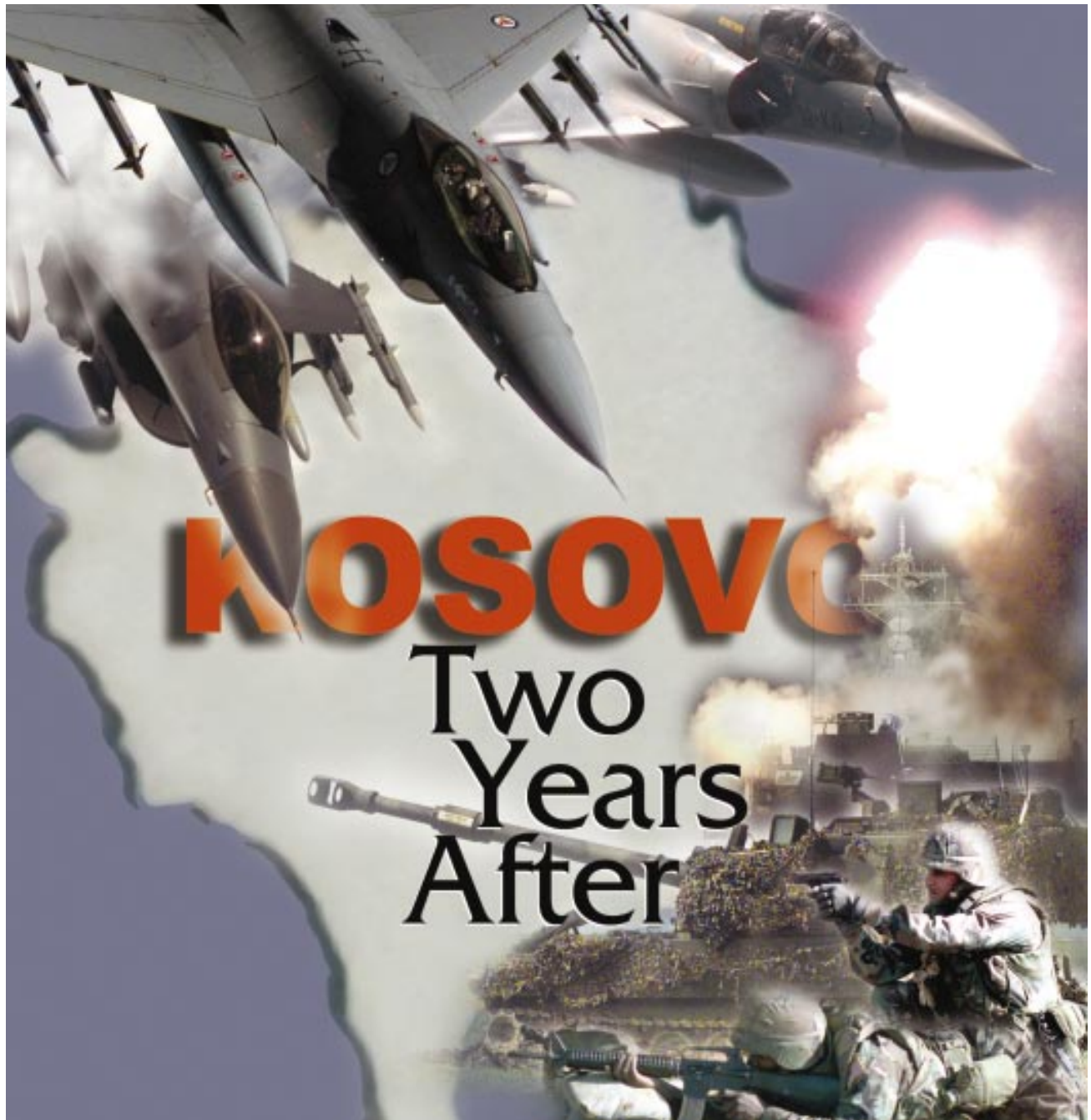
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From the Staff

The important lessons learned for all personnel to know are in the field with you, not with us. The JCLL has the mission and the means to share those lessons with the rest of the joint community. If you or your unit have a “lesson” that could help others do it right the first time, then send it to us. Don’t wait until you have a polished article. The JCLL can take care of the editing, format, and layout. We want the raw material that can be packaged and then shared with everyone. Please take the time to put your good ideas on paper and get them to the JCLL. We will acknowledge receipt and then work with you to put your material in a publishable form with **you as the author**.

We want your e-mail address, please send your command e-mail address to us at jell@jwfc.jfcom.mil. Our future plans call for electronic dissemination of various material.

REMEMBER!!!

TIMELY SUBMISSION OF INTERIM REPORTS, AFTER-ACTION REPORTS, AND LESSONS LEARNED RESULTS IN MORE TIMELY, QUALITY PRODUCTS AND ANALYSIS FROM THE JCLL STAFF.

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Message from the Commander

MG William S. Wallace, USA
Commander, JFCOM JWFC

It has now been two years since the conflict in Kosovo ended and one year since we last focused our Bulletin on Kosovo lessons learned. During that time additional lessons from Operation ALLIED FORCE were identified. These are not necessarily lessons learned that occurred since the conflict, but rather lessons newly identified. Therefore, in this issue we will focus on the lessons we continue to discover from Kosovo.

The first article is a reprint of the executive summary from the **“Kosovo After-Action Report to Congress,”** and includes overarching lessons learned from the report. Due to printing limitations, the Bulletin contains a truncated version of the summary. The complete after-action report is available on our JCLL websites for your review.

In our second article in this Bulletin, **“Kosovo Air Operations,”** we provide an excerpt from a recent Government Accounting Office (GAO) report dealing with the use of attack helicopters in TF HAWK, and some of the interoperability difficulties encountered by the Army. This entire GAO report is also available to the reader on our websites for review.

The third article, **“Wake-up Call in Kosovo,”** by Dr. Milan Vego, provides specific examples of failures that occurred at the Operational and Strategic levels of warfare. He discusses the lessons learned, then challenges us to study and evaluate them for future conflicts.

In **“Myths of the Air War Over Serbia: Some Lessons Not to Learn,”** Dr. Grant Hammond dissects the air effort in Kosovo, highlights some of its shortfalls, and challenges commonly accepted conclusions from the war.



The fifth article, **“The Role of C2 Systems During NATO Operation Allied Force,”** by Capt Scherrer, is interspersed with comments by one of his co-workers, Mr. Hunter Lambert. Mr. Lambert relates several problems and discusses “what worked well” and “what didn’t work” at the Combined Air Operations Center (CAOC), Vincenza, Italy.

The sixth article, **“The CNN Factor,”** begins with a lesson learned from the JCLL database dealing with information operations (IO) and the necessity for developing a comprehensive plan for IO employment. Following this report is an article by Anne Plummer called **“Information Ops Soldiers In Kosovo Try to Solicit Civilian Support.”** Our final article is part two of the series on **“Integrating Joint Operations Beyond the FSCL,”** by LTC Dwayne P. Hall.

WILLIAM S. WALLACE
Major General, US Army
Commander, JFCOM JWFC



JCLL Update

Mr. Mike Barker
JCLL Director

Let me digress from the bulletin itself and address an event that took place this week. Last November during the Worldwide Joint Lessons Learned Conference, one of the identified requirements was the need to create a Joint Lessons Learned Program (JLLP) Configuration Management Board (CMB). After one postponement, the first JLLP CMB was held at the Joint Warfighting Center (JWFC) from 22-23 May 2001. For this first CMB, we (Joint Staff and JCLL) decided that the initial group of voting members would consist of all nine CINCs, the five Services, which includes the Coast Guard, plus the Joint Staff and JCLL. In the future as we refine the process, other agencies could be invited to become voting members of the CMB.

Out of this CMB, two important decisions were reached. The first was the approval of the CMB charter (see copy at the end of this bulletin). As with any charter, this one discusses the make up of the CMB, duties and responsibilities of key positions, and issue resolution. As accepted, Joint Staff J7 will chair the CMB, while JCLL will chair both the Secretariat and the Configuration Management Manager (CMM) positions. The CMM will head up the JLLP Interoperability Working Group whose primary focus is to work the technical issues surrounding the Joint After-Action Report (JAAR) Family of Software, including WinJIIP, NIIP, AFIIP, Air Force Lessons Management System (ALMS), and the Joint Automated Lessons Learned Tool (JALLT).

During the remainder of the conference, we discussed several emerging, though extremely important, areas. The first briefing was "Defining a Common Framework". The intent of this presentation was to provide a proposed JLLP framework for commonality and direction of our lessons learned program. The briefing looked at how we, the joint community, currently work through the lessons learned process. It then looked at how we could approach the future, to include updating many of the definitions found in the current CJCSI and introducing several new definitions. Although no decision was planned for, it did help raise the awareness level of many of the participants. The second briefing discussed input interface with the JAAR Family of Software. More specifically, this involved the pull-down menus and categories you see when using any of the input programs. For those of you who have used the software, the framework and content are roughly the same today as it was over twenty years ago when the software was first developed. Discussion centered on modifying the current drop down menus and adding several new menus that would include such areas as DOTMLP-F and Joint Vision 2020. Recommendations were passed down to the CMB Interoperability Working Group to review and report back on their results.

Last but not least was JCLL's implementation of the JALLT software being adapted from the Air Force AFIIP. In the last Bulletin I mentioned the problems JCLL encountered with DOS-based software programs and how we intended to overcome those problems. JWFC system engineers are continuing to work on converting the AFIIP program into an Oracle based software program. In addition to the search capabilities, JALLT brings with it a Remedial Action Program (RAP) module, which will enable the Joint Staff to more efficiently manage the RAP database. It also provides a collaboration tool via e-mail for RAP POCs to view and provide comments. This should help accelerate this entire RAP resolution process.

That, in a nutshell, was the first JLLP Configuration Management Board. For those of you who desire to attend future JLLP conferences, make note of the following tentative dates: JLLP CMB, 2-3 October 2001, and Worldwide Joint Lessons Learned Conference, 6-8 November 2001.

We've been getting some great comments, which have led to submission of follow-on articles. Keep it up.

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LESSON HIGHLIGHTS

In an attempt to make information in articles more “user friendly,” the JCLL will occasionally include a synopsis of the article at the beginning to highlight the key lessons from the article. It is our desire to allow the reader the ability to scan the highlights to determine their requirement for detailed study of the information. Below are the Lesson Highlights from the Kosovo After-Action Report to Congress, Executive Summary.

SUCSESSES

- NATO Command Structure
- Peace Operations
- Eliciting Significant Contributors from Coalition Partners
- Cohesion of Alliance
- Ability to Vet Targets Through Partners
- Suppression of Enemy Air Defenses
- Maintaining Good Relations With Non-NATO Regional Players
- Planning for two MTW Scenarios
- Zero Casualty Count
- Logistics
- Support from Communications Infrastructure
- Dissemination of Information to Warfighters

CHALLENGES

- NATO is Too Dependent on the United States
- Limitations to Strategic Lift Capability
- Deployment of Secure and Interoperable Communications
- Identifying and Validating Proposed Targets
- Integration of World-wide Intelligence, Surveillance, and Reconnaissance Systems

KOSOVO AFTER-ACTION REPORT TO CONGRESS EXECUTIVE SUMMARY (U)

(U) For 50 years, NATO has given caution to its foes and comfort to its friends. As a watershed in NATO's long history, Operation Allied Force was an overwhelming success. NATO accomplished its mission and achieved its strategic, operational, and tactical goals in the face of an extremely complex set of challenges. It forced Milosevic to withdraw from Kosovo, degraded his ability to wage military operations, and rescued and allowed resettlement of nearly one million refugees. It put a peacekeeping force with NATO at its core into place, and remains committed to a peaceful, multi-ethnic and democratic Kosovo, enjoying substantial autonomy within the Federal Republic of Yugoslavia. NATO accomplished this by prosecuting the most precise and lowest-collateral-damage air operation ever conducted — with no U.S. or allied combat fatalities in 78 days of around-the-clock operations and over 38,000 combat sorties against very active Yugoslav integrated air defenses.

(U) Despite extensive efforts to resolve the crisis in Kosovo short of military action, NATO was eventually left with no other recourse but to use military force. In reaching that decision, NATO recognized that the use of military force could not immediately stop Serbian attacks on Kosovar civilians. These attacks had been planned in advance and were already in the process of being carried out when Opera-

tion Allied Force began. At the outset of the air operation, NATO set specific strategic objectives for its use of force in Kosovo. These objectives were to: (1) demonstrate the seriousness of NATO's opposition to Belgrade's aggression in the Balkans, (2) deter Milosevic from continuing and escalating his attacks on helpless civilians and create conditions to reverse his ethnic cleansing, and (3) damage Serbia's capacity to wage war against Kosovo in the future or spread the war to neighbors by diminishing or degrading its ability to wage military operations. These objectives would be accomplished by attacking strategic targets throughout the Federal Republic of Yugoslavia and fielded forces in Kosovo.

(U) In taking these actions, alliance forces demonstrated unrivaled military prowess by executing the largest combat operation in NATO's history. A number of new systems and capabilities were used for the first time in combat and performed in ways that exceeded our expectations. We were also able to reassure and help neighboring countries come through the crisis intact, despite Milosevic's intent to destabilize the region. In short, NATO demonstrated both the unwavering political cohesion and the unmatched military capability that will be required to meet the security challenges of the 21st century.

Lessons Learned (U)

(U) In June 1999, the Secretary of Defense initiated actions to collect lessons from Operation Allied Force. This report captures the most critical lessons and identifies areas where more detailed assessments are needed to determine appropriate changes in doctrine, training, organization, and technology. At the same time, it is essential that one does not draw the wrong lessons from this unique conflict. The Department has studied the Kosovo operation with an eye toward identifying concepts that have broad applicability to many different situations. The most important of these lessons or related observations are summarized in the paragraphs that follow; their implications are outlined in more detail in the Summary of Major Observations that follows the main body of the report.

Men and Women in Service (U)

(U) First and foremost, the success of Operation Allied Force was an extraordinary demonstration of the competence, capability, determination, perseverance, and patriotism of the men and women who serve in America's armed forces. Success was made possible by thousands of airmen, Marines, sailors, and soldiers in the active forces as well as in the Guard and Reserve, whose courage and dedication allowed them to overcome the countless challenges they faced throughout this operation. Their accomplishments confirmed that quality people, combined with first-class technology and equipment, is what gives America's armed forces the decisive edge. Our nation can be extremely proud of our Service men and women and the spirit with which they carried out their obligations, not only in waging the air operation but also in carrying out humanitarian efforts during and after the conflict.

NATO Contributions (U)

(U) Another key to success was the cohesion demonstrated by our NATO allies. All 19 NATO members contributed steadfastly to the effort, despite extraordinary domestic pressures in a number of countries. It simply would not have been possible to carry out even the U.S. part of this operation without the NATO members contributing their airspace, their infrastructure, their military bases, and their airfields — often at the cost of considerable disruption to civilian activities. This alone was a tremendous achievement for the NATO alliance.

(U) Our NATO allies also provided significant military capabilities. Twelve other NATO nations deployed military aircraft to the operation in roughly the same proportion to their overall inventories as did the United States. They also contributed ground forces to help stabilize the countries neighboring Kosovo and to conduct humanitarian relief operations. The NATO command structure allowed the Supreme Allied Commander to employ effectively those assets that the NATO members had committed to the operation. NATO also demonstrated a capability to conduct sustained and effective combined operations on a multinational

basis.

Improving Allied Military Capabilities (U)

(U) Although experience in Operation Allied Force confirmed that the United States and our allies have made significant accomplishments working together, it also made clear that improvements are necessary. Our experience demonstrated the urgent need to pursue the Defense Capabilities Initiative, which the Secretary of Defense and the Chairman of the Joint Chiefs of Staff introduced last year to address the shortcomings of NATO. Among the most important of these are deficiencies in command-and-control and information systems, secure communications, precision strike capability, air operations support, and mobility systems. During Allied Force these shortcomings combined to shift a disproportionate burden of responsibility for combat operations to the United States and impeded our ability to operate more effectively with NATO allies. A more detailed assessment of allied military capabilities is contained in the Report on NATO Defense Capabilities Initiative that will be submitted in accordance with Section 1039 of the FY 2000 Defense Authorization Act.

(U) Unless addressed, these disparities will limit NATO's ability to operate as an effective alliance over the long term. Accordingly, the successful implementation of the Defense Capabilities Initiative is a top priority. On an encouraging note, NATO is already concentrating on what needs to be done to improve precision-strike capabilities and strategic lift, and to deploy secure communications that are fully interoperable with U.S. equipment.

Target-Approval Process (U)

(U) During the course of the campaign, NATO developed mechanisms for delegating target approval authority to military commanders. For selected categories of targets — for example, targets in downtown Belgrade, in Montenegro, or targets likely to involve high collateral damage — NATO reserved approval for higher political authorities. NATO leaders used this mechanism to ensure that member nations were fully cognizant of particularly sensitive military operations, and, thereby, to help sustain the unity of the alliance.

Bombing of the Chinese Embassy in Belgrade (U)

(U) The bombing of the Chinese Embassy in Belgrade was entirely unintended. It was the result of a failure in the process of identifying and validating proposed targets. The headquarters of the Yugoslav Federal Directorate of Supply and Procurement (FDSP) was a legitimate military target, but the technique used to locate it was severely flawed. None of the military or intelligence databases used to validate targets contained the correct location of the Chinese Embassy. Nowhere in the target review process was a mistake detected.

(U) Immediate corrective actions have been implemented and organizations primarily responsible for these databases have been tasked to institutionalize long-term corrective measures. Additionally, the Defense Intelligence Agency and the National Imagery and Mapping Agency have established rapid response procedures for critical database updates for “No Strike” targets. The Intelligence Community and other government agencies will explicitly report whenever foreign embassies move or are built.

Relationship with Russia (U)

(U) Operation Allied Force clearly tested Russian relations and, at least for a brief period, complicated our ability to interact with Russian counterparts. In the end, however, Russia worked with the alliance and provided considerable diplomatic assistance in bringing the conflict to an end. Russian leaders eventually agreed with NATO that all the Serb forces should leave Kosovo, that the refugees should return, and that some form of international peacekeeping force should be deployed. Today, NATO-Russian collaboration is contributing directly to the success of the peacekeeping operation in Kosovo as well as that in Bosnia.

Effect on Our Capability To Fight Two Major Theater Wars (U)

(U) Concerns have been raised about how Operation Allied Force affected the Department’s ability to carry out the most stressing requirement associated with its defense strategy; to fight and win two nearly simultaneous major theater wars. Had one such war broken out while the United States was involved in Kosovo, the Department is confident that the challenge could have been met, albeit at a higher level of risk than would have been the case if U.S. forces had not been conducting operations in Kosovo. The Department was cognizant of these risks at the time and made various adjustments in our posture and plans to address those risks. Consistent with U.S. defense strategy, if we had faced the threat of two major theater wars, we would have withdrawn our forces from other activities, including Operation Allied Force, but we are confident that we would have ultimately prevailed.

Ground Operation (U)

(U) In the early stages of NATO’s operational planning for the Kosovo crisis, NATO considered a wide range of contingency planning options, including use of both air and ground forces, to achieve the alliance’s objectives. In the period leading up to the initiation of the air operation, there was not a consensus in the United States or the alliance to aggressively pursue planning for a ground force option in other than a permissive environment. At that time, we were exhausting all diplomatic initiatives while maintaining the credible threat of NATO air power. Following the failure to reach a settlement with the Serbs at Rambouillet and Paris, U.S. and allied leaders decided that execution of a phased

air operation was the best option for achieving our goals.

Absence of Combat Fatalities (U)

(U) Operation Allied Force was conducted without a single allied combat fatality. However, this outcome, as gratifying as it now is, is not what was expected when the operation began. The likelihood of casualties in high-intensity combat operations is very significant. Among the gravest decisions senior civilian and military leaders face is to accomplish fully the military objectives set forth, while maintaining acceptable risk to personnel. In this instance, a combination of skill, technology, training, and tactics enabled U.S. and NATO forces to incur no combat fatalities, despite great risk to our personnel, particularly withering fire from Serb air defenses. This achievement cannot be expected in every future conflict.

Command, Control, Communications, and Computers (U)

(U) The command, control, communications, and computers (C4) systems provided for Operation Allied Force were unprecedented in terms of capacity and variety of services. The available bandwidth was nearly double that used during the Gulf War, an operation with far more forces committed. This achievement was made possible by the communications infrastructure in Europe, both military and civilian, which are among the most robust and flexible available to the United States in any theater of operations. In addition, extraordinary efforts were made to bring additional C4 capabilities into the theater, even though this impacted other U.S. military commitments worldwide.

(U) The widespread use of video teleconferencing and other advanced technologies for command and control and collaborative planning presented numerous limitations and challenges. In order to optimize the application of these systems and accustom operational commanders to their effects, appropriate doctrine, tactics, techniques, and procedures must be developed. In addition, these technologies should be included regularly in future large-scale joint and combined training exercises.

Intelligence, Surveillance, and Reconnaissance (U)

(U) For the United States, Operation Allied Force provided a real-world test of information superiority concepts outlined in Joint Vision 2010. Over the course of Operation Allied Force, U.S. intelligence, surveillance, and reconnaissance capabilities provided unprecedented levels of information to NATO warfighters. The supporting intelligence architecture included a worldwide network of processing centers and high-speed data communications, all operating in direct support of combat operations in Kosovo. Despite NATO’s success, it is evident that further integration of worldwide collection of intelligence, surveillance, and reconnaissance systems is needed to provide warfighters with

a more coherent picture of the battlespace and more accurate and timely targeting support.

(U) Among the capabilities that require particular attention are unmanned aerial vehicle (UAV) systems, which were used extensively in combat for the first time. UAVs contributed greatly to NATO's success by increasing the information available for strike and other operations. In addition, better sensors along with improved processing and dissemination capabilities are needed to provide a capability to counter any future adversary. The heavy usage incurred by some intelligence, surveillance, and reconnaissance systems also raises questions regarding the availability of these high-demand assets to provide commanders and operators with needed intelligence support.

Air Defense Suppression (U)

(U) Key among the factors that made Operation Allied Force difficult for NATO forces was the Serbian integrated air defense system. The command centers, radars, and missile launchers that make up this system were very high priority targets from the beginning of the war. However, by dispersing and camouflaging their equipment, and using that equipment sporadically to avoid detection, the Serbs successfully prevented NATO from completely shutting down their air defense system. The Serbs also used the system to launch a large number of surface-to-air missiles and anti-aircraft artillery at allied pilots. In fact, the average aircrew participating in Operation Allied Force experienced a missile-launch rate three times that encountered by the average Coalition aircrew during Desert Storm.

(U) Despite these challenges, NATO was able to mitigate the threat. In over 38,000 sorties, only two aircraft were lost to hostile fire — a testament to NATO's skillful conduct of the operation. To achieve this result, however, NATO had to devote considerable resources to suppressing

the enemy's air defenses. Rather than expend sorties attempting to find and attack the large numbers of man-portable missile and anti-aircraft artillery threats, NATO commanders chose to operate most aircraft at altitudes above 15,000 feet, beyond the effective reach of these systems. Electronic warfare and air-defense suppression aircraft (such as the EA-6B and the F-16CJ) accompanied nearly all strike aircraft on their missions. Our experience in Operation Allied Force thus re-emphasized the importance of having a comprehensive air-defense suppression strategy. Accordingly, the Department will conduct a detailed and thorough study of joint air-defense suppression capabilities in the Airborne Electronic Attack Analysis of Alternatives. In addition, it is clear that all members of the alliance need to develop appropriate air defense suppression capabilities.

Logistics and Deployment (U)

(U) As is the case in every military operation, logistics proved critical in Allied Force. Working with limited infrastructure and the competing demands of combat and humanitarian operations, logisticians made the extremely difficult seem routine. This was helped, in part, by the addition of the C-17 to the strategic airlift fleet. The C-17's high reliability and basing versatility clearly enhanced our ability to deploy forces to, and within, the European theater. Although the overall deployment process was successful, arrival of some forces was delayed owing to changes in operational plans and needed adjustments to standard practices. These problems highlight the need for progress on several initiatives aimed at making time-phased force deployment data more relevant and more usable. Another factor in our success was an improved capability to track supplies and equipment from the warehouse to the warfighter. While much has been done in this area, there is still room for improvement.

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KOSOVO AIR OPERATIONS

The following is an excerpt from a recent General Accounting Office report titled *Kosovo Air Operations: Army Resolving Lessons Learned Regarding the Apache Helicopter* (GAO-01-401, March 2, 2001). The report is one in a series requested by the Committee on Armed Services, US House of Representatives relating to Operation Allied Force. It addresses the Army's deployment of Apache attack helicopters, supporting equipment, and personnel known as Task Force Hawk. (See JCLL Bulletin Volume II, Issue 3 for related article.) The section of the report included below focuses on the improvements being made in the Army's and Air Force's ability to conduct joint operations and the improvements still needed in the interoperability of the two services' command, control, communications, computers, and intelligence equipment. The joint operations discussion touches on three areas: Army Force Commander, the air tasking order, and targeting. The discussion on interoperability addresses the older and newer battlefield command systems used by Army elements. For those who would like to see the entire report, copies are available at the Real World Operations section of the JCLL home page and at the GAO home page <http://www.gao.gov/>.

Lessons Learned Highlight Problems With Joint Operations and Equipment Interoperability.

Two key themes emerged from the lessons learned collected. One was the need for the Army and the Air Force to work together better jointly. The other theme was the interoperability of the two services' command, control, communications, computers, and intelligence equipment.

Improvements Are Being Made in the Ability to Conduct Joint Operations.

The Task Force Hawk experience highlighted difficulties in several areas pertaining to how the Army operates in a joint environment. One area was determining the most appropriate structure for integrating Army elements into a joint task force. Doctrine typically calls for a Joint Force Land Component Commander or an Army Force Commander to be a part of a joint task force with responsibility for overseeing ground elements during an operation. The command structure for the U.S. component of Operation Allied Force did not have a Joint Force Land Component Commander. Both Army officials and the Joint Task Force Commander in retrospect believe that this may have initially made it more difficult to integrate the Army into the existing joint task force structure. The lack of an Army Force Commander and his associated staff created difficulties in campaign planning because the traditional links with other joint task force elements were initially missing. These links would normally function as a liaison between service elements and coordinate planning efforts. Over time, an ad hoc structure had to be developed and links established. The Army has conducted a study to develop a higher headquarters design that would enable it to provide for a senior Army commander in a future Joint Task Force involving a relatively small Army force. This senior commander would be responsible for providing command, control, communications, computers, and intelligence capability to the joint task force. The study itself is complete, but testing of the design in an exercise is not scheduled until February 2002.

A second area that the Army had difficulty with during its mission training was including its aircraft in the overall planning document that controls air attack assets. The plan, called an air tasking order, assigns daily targets or missions to subordinate units or forces. Air Force officials in Europe told us that they had difficulty integrating the Army's attack helicopters into the air tasking order. According to U.S. Army Europe officials, there were no formalized procedures for how to include Army aviation into this planning document and they had little or no training on how to perform this function. The Army and the Air Force in Europe are developing joint tactics, techniques, and procedures for integrating Army assets into the air tasking order and are beginning to include this process in their joint exercises. A third area that the Army and the Air Force had difficulty with was targeting. As previously discussed, once the decision was made that Task Force Hawk would not conduct deep attacks, its resources were used to locate targets for the Air Force. According to U.S. Army Europe documentation, Army analysts in Europe had little or no training in joint targeting and analyzing targets in a limited air campaign. As a result, in the early days of the Army targeting role, mobile targets nominated by the Army did not meet Operation Allied Force criteria being used by the Air Force for verifying that targets were legitimate and, therefore, were not attacked. As the operation progressed, the two services learned each other's procedures and criteria and worked together better. The Army and the Air Force in Europe are now formalizing the process used and are developing tactics, techniques, and procedures for attacking such targets and sharing intelligence. They are including these new processes in their joint exercises.

Improvements Are Needed in Interoperability.

The second major theme that emerged from the lessons learned was the interoperability of the command, control, communications, computers, and intelligence equipment. The Army is transitioning from a variety of battlefield command systems that it has used for years to a digitized suite of systems called the Army Battlefield Command System. During Operation Allied Force, Army elements used a variety of older and newer battlefield command systems that were not always interoperable with each other. The mission planning and targeting system used by the Apache unit in Albania during Task Force Hawk was one of the older systems and was not compatible with the system being used by the Army team that provided liaison with the Air Force at the air operations center. The Army liaison team used the new suite of Army digitized systems that will ultimately be provided to all Army combat forces. However, at the time of Task Force Hawk, the suite of systems was not fully fielded and not all the deployed personnel were trained on the new systems. Consequently, the Apache unit in Albania used the older systems, making it difficult to communicate with the liaison team and requiring the manual as opposed to electronic transfer of data.

The older mission planning and targeting system used by the Apache unit in Albania was also not compatible with the Air Force system. The Air Force has a single digital battlefield command system. The Apache unit in Albania, using its older equipment, could not readily share data directly with the Air Force. In addition, the intelligence system being used by the Army at the unit level and at the liaison level could not directly exchange information with the Air Force. As was the case within the Army, personnel had to manually transfer data. This was time consuming and introduced the potential for transcription errors. The Army is continuing to field the new suite of systems. We have previously reported that the schedules for fielding these systems have slipped and the Army in Europe is not scheduled to receive the complete suite of new systems before 2005¹. When it is eventually fielded, this new suite of systems is expected to reduce if not eliminate the inability of the Army's and the Air Force's systems to work together.

Editor's Note: The General Accounting Office was established in 1921 and is an independent, nonpartisan agency in the legislative branch. It is headquartered in Washington, D.C. and has offices in several cities with more than 3,200 employees nation-wide. GAO issues over 1,000 reports annually.

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¹ Battlefield Automation: Performance Uncertainties Are Likely When Army Fields Its First Digitized Division (GAO/NSIAD-99-150, July 27, 1999) and Battlefield Automation: Army Needs to Update Fielding Plan for First Digitized Corps (GAO/NSIAD-00-167, July 25, 2000).



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Wake-Up Call in Kosovo

By Dr. Milan Vego

In the Kosovo crisis of 1999, the lessons of operational war fighting learned during the Gulf War were forgotten. The lack of focus on the proper centers of gravity allowed Serb forces to operate in Kosovo unharmed. If the current obsession with technology and targeteering is not reversed, our ability to use military force decisively against a strong opponent could be crippled severely.

The bombing of Serbia by the North Atlantic Treaty Organization (NATO) began on 24 March and ended on 10 June 1999. Operation Allied Force was described as a success, and in many ways it was. NATO airmen, sailors, and soldiers performed extremely well at the tactical level. Too many mistakes, and even blunders, however, were made at the strategic and operational levels. Allied Force must be critically evaluated and some lessons deduced for the future.

> **Planning:** Political restrictions and interference severely hampered NATO's planners' ability to prepare sound and coherent plans for possible action against the Serbs. Some members of the alliance insisted on gradual escalation, believing that President Slobodan Milosevic would back down and accede to NATO's demands. The Clinton administration perhaps was justified in its belief that most NATO members would never agree to a long conflict with Serbia. NATO staffs were directed specifically not to link air and ground operation planning. There was no true campaign plan prepared before or during the conflict. Because NATO's political leaders assumed that the conflict would be short, no packages of political, diplomatic, economic, or psychological measures were prepared. Reportedly, there was no alternate or contingency plan.

> **Desired End State:** In preparing to use military force, one of the principal responsibilities of political leadership is to determine and articulate a strategic guidance to the theater commanders. Such guidance must include a clear description of the political, military, economic, social, ethnic, legal, and other conditions that should exist or be created in a given theater after the end of the hostilities. NATO's top political leadership failed to provide a clear and achievable desired end state. This unwritten set of goals might have included the following elements: the breakup of the current regime in Serbia and the emergence of a democratic regime; the creation of preconditions for the Albanian majority in Kosovo to exercise its right of self-determination; strengthening the position of the anti-Milosevic regime in Montenegro; the renunciation of Serbia's territorial claims against its neighbors; drastic reduction of the military threat that Serbia poses to its neighbors; and greatly enhanced domestic stability in Macedonia and Albania.

> **Strategic Objectives:** After the desired end state is determined, the political leadership must define clear and achievable strategic objectives. The strategic objectives of both NATO and the United States were ambiguous, poorly articulated, and unrealistic. There was a serious mismatch between the ends to be accomplished and the means the political leadership was willing to use to achieve those ends. To make the situation worse, these objectives underwent changes as the air offensive went on. At the beginning of the air campaign, the United States publicly stated that the objectives of NATO action against Serbia were to demonstrate the seriousness of NATO's opposition to Belgrade's aggressiveness in the Balkans, to deter Milosevic from continuing and escalating his attacks on helpless civilians and create conditions to reverse his ethnic cleansing, and to damage Serbia's capacity to wage war against Kosovo in the future or to spread the war to neighbors.¹ Almost simultaneously, NATO publicly stated that the objective of its actions was to help to achieve a peaceful solution to the crisis in Kosovo by contributing to the response of the international community and to halt the violence and support the completion of negotiations on an interim political solution.² On 23 April, the North Atlantic Council issued a statement reiterating some of the original statements and adding new objectives, which really were conditions for the termination of the conflict rather than strategic aims.³ Language such as "demonstrate the seriousness" is so broad and ambiguous that it means little in practical terms. Likewise, the terms "damage" or "degrade" are essentially useless because any damage or degradation inflicted on the opposing force or the enemy's infrastructure would have to satisfy the stated strategic objectives. A more achievable set of strategic goals for NATO probably would have included the following: significantly weaken Belgrade's hold on key elements of power; seize Kosovo province and restore full autonomy for the ethnic Albanians, as a first step for the permanent resolution of the Kosovo problem; drastically reduce the combat capabilities of the Yugoslav ground, air, and naval forces; and weaken Serbian internal security forces.

> **Theater Strategic Objectives:** Normally, strategic objectives within the theater must be determined based on strategic guidance. Initially, NATO stated that its military action was directed toward halting the violent attacks being

committed by the Yugoslav Army and the Ministry of Interior and disrupting their ability to conduct future attacks against the population of Kosovo, thereby supporting international efforts to secure the agreement of the Federal Republic of Yugoslavia to an interim political settlement.⁴ In mid-April, DoD stated that the military strategic objective was to degrade and damage the military and security structure that President Milosevic was using to depopulate and destroy the Albanian majority in Kosovo.⁵ NATO military strategic objectives might have been more in harmony with the DoD strategic objectives if the following elements were included in it: destroying the Yugoslav Army deployed in the Kosovo province; destroying the major part of the Yugoslav Army and Air Force and their infrastructure deployed north of the 44th parallel; destroying the major part of the Yugoslav Navy; destroying Serbia's capacities to produce heavy weapons and equipment; cutting off import and production of crude oil and refined products; and neutralizing Serbia's electricity grid and power plants.

> **Methods:** After the military objectives are determined, the operational commander and his staff must decide which method of combat force is needed to accomplish them. The accomplishment of a strategic objective in a given theater normally requires the planning and execution of a campaign—a series of major operations conducted on land, in the air and at sea, sequenced and synchronized in terms of space and time and controlled by a single operational commander. Operation Allied Force was not an air campaign, despite the claims of the air-power enthusiasts, but a major combined offensive air operation. It consisted of a series of air strikes and attacks conducted for 78 days that cumulatively accomplished a partial strategic objective. NATO forces did not plan or execute a series of major operations conducted on the ground or at sea.

> **Attack Direction/Axis:** Attack direction or axis refers to a broad swath of surface (land, sea, or ocean) or airspace extending from one's own base of operations to the ultimate physical objective, via selected intermediate physical objectives. Normally, a campaign is conducted along a single strategic axis, and a major operation is carried out along at least one operational axis. If one's forces, however, operate from an exterior position, as NATO forces did, then a major operation is conducted along several tactical axes. NATO initially was at a great disadvantage because air strikes were to be carried out from a few tactical axes covering only the western and southern approaches to targets in Serbia and Kosovo. Most of the strikes were conducted from Aviano Air Base in Italy across Slovenian and Croatian airspace. Another tactical axis was used by U.S. carrier-based aircraft flying from the Ionian Sea via Albania's territory to targets in Kosovo and Serbia proper. This made NATO's strikes predictable and thereby facilitated the task of Serbia's air defenses in the first few weeks of the war. It was not until the second week of May that NATO was able to launch air strikes from Hungary and Turkey, thereby presenting a multidirectional threat to the Serbian air defenses.⁶

> **Enemy Center of Gravity:** For each military objective to be accomplished, a corresponding center of gravity (COG) must be determined. The process of determining the enemy center of gravity starts with an identification and analysis of the "critical factors"—a collective term referring to the critical strengths and weaknesses of a military force or non-military source of power. A COG at any level of war is always found among the enemy's critical strengths, not its critical weaknesses as is often thought. In generic terms, a COG is that source of leverage or massed strength—physical or moral—whose serious degradation, dislocation, neutralization, or destruction will have the most decisive impact on the enemy's or one's own ability to accomplish a given military objective.

NATO planners had to determine the enemy's strategic and operational centers of gravity. The Serbian strategic centers of gravity were the will to fight of Milosevic and his inner circle and the country's military-economic potential as a whole. Milosevic's main pillar of power was 80,000 to 100,000 troops of the Ministry of Interior, not the 140,000 men (including 90,000 conscripts) of the Yugoslav Army, which had been repeatedly purged of generals considered to be insufficiently loyal.

Public support for Milosevic's regime did not collapse just because NATO destroyed airfields, bridges, oil refineries, dual-purpose defense plants, or empty government buildings. Milosevic would only have changed his behavior and his policies if the physical safety of himself and his family were seriously threatened. Had NATO forces actually invaded and occupied Kosovo, the will to fight of Milosevic and his inner circle would have been severely shaken.

In planning for a campaign, NATO planners needed to identify several operational centers of gravity. The first intermediate objective in a campaign is to obtain and maintain air superiority over the area in which combat is to take place. Hence, the fighter aircraft of the Yugoslav Air Force, along with their supporting structure on the ground, represented the enemy's operational COG in the air. Because NATO's objective was to prevent Serbian actions against the ethnic Albanians in Kosovo the proper center of gravity on the ground was not the 52nd (Pristina) Corps of the Yugoslav Army deployed in Kosovo, but the Serbian security and paramilitary forces involved in the ethnic cleansing. To make the situation more complicated for the planners, these ground forces did not concentrate in sufficient mass to represent even a tactical COG. They were deployed in small, mobile, and widely dispersed groups. Therefore, their destruction or neutralization required lots of time and resources.

> **Operational Idea:** The operational idea (or scheme) is the heart of the design for a major operation or campaign.⁶ It

should depict the theater commander's vision of what he intends to do and how he intends to accomplish the assigned operational or strategic objective.⁷ The operational scheme for Allied Force lacked imagination and was too traditional. The plan presented a single-dimensional threat because only the use of air power was envisaged. To make the situation worse, the U.S. and NATO political and military leaders said publicly and repeatedly that no use of ground troops was planned. The lack of a ground option greatly eased the problem for the Serbs, who were allowed to use their regular troops freely in support of security forces and paramilitaries in Kosovo instead of being forced to dig in and fortify border areas for defense against a possible invasion. Mainly for political reasons, the operational scheme did not envisage the most optimal use of air power in mass to overwhelm and shock the opponent early in the operation. Initially, NATO did not have an all-encompassing plan to prepare and "shape" the Kosovo area of operations by simultaneously cutting off the potential flow of reinforcements and supplies over land routes and establishing a sea blockade off the Montenegrin coast. Because the Kosovo crisis extended for many months and too many empty threats were made, NATO planners were unable to count on the element of surprise at any level. It was inexcusable that no plan of operational deception was ever devised.

> **Lessons Learned:** Political and military leaders must be fully aware that political constraints cannot simply be piled up without taking into account their consequences on planning and the effective use of military power. Cumulatively, these constraints might undermine the ability of the military commanders to properly and effectively use their forces to accomplish assigned strategic objectives. If political limitations are too severe, the strategic objectives must be reduced in scope or the time allotted for their accomplishment must be extended—or the limitations on the use of military power must be loosened. For the optimal use of combat power, leadership should limit itself to providing complete, clear, concise, and well-articulated strategic guidance and afterward give the respective theater commander the full authority to plan and execute military actions to accomplish the stated strategic objectives.

Strategic objectives should be clearly defined and achievable with resources on hand or becoming available. They should not be changed unless the strategic or operational situation changes so drastically that the existing objectives no longer are appropriate. In the formulation of strategic objectives, broad and ambiguous terms should not be used. Military objectives selected should be the opposite of the assumed or real objectives sought by the opponent. Otherwise, an opponent with less ambitious objectives or using its forces asymmetrically might accomplish its objectives quickly despite military inferiority, and thereby dictate the terms of the settlement.

The operational idea for a major operation or campaign should be innovative and make it difficult for the enemy to predict how the actions of one's own and allied forces are to unfold. It should ensure speed of execution and make full use of joint force capabilities to deceive and mislead the enemy. Whenever possible, the enemy should be presented with credible threats in all three mediums: from the ground, in the air, and at sea. A sound operational scheme should provide for actions to isolate and shape the battlefield, systematically preventing the arrival of the enemy reinforcements and supplies into the theater.

In the end, the United States and NATO forced Milosevic to accept their demands. Victory, however, was as much the result of diplomacy as air power. The real danger now is that the success of Allied Force might not energize U.S. services and the joint community to identify and then resolve serious deficiencies in the relationship between policy and strategy, strategy formulation, operational planning, and operational thinking. These problems mainly are caused by the obsessive belief, bordering on zealotry, in the paramount value of smart weapons, computer systems, and information warfare. Not surprisingly, military theory and its critical role in shaping and guiding the practical application of strategy, operational art, and tactics are almost totally neglected. The Kosovo crisis of 1999 should be a wake-up call rather than a cause for self-congratulation. We must return to the old-fashioned but well-proven and still highly relevant Clausewitzian and Moltkean approach to warfare. The U.S. Navy in particular seems oblivious to the critical role strategy and operational art always have played the past in planning, preparing, and conducting major operations and campaigns in a maritime theater.

This is not a call to abandon our faith in tactics and technology, but to take a more balanced approach to war fighting. The Vietnam War should have taught us that the emphasis on tactics and technology does not ensure victory, but only prolongs inevitable defeat. Discarding or dismissing these lessons as irrelevant today will ensure future defeat at the hand of a stronger and more resourceful opponent who might have less-advanced weapons and tactics but who—unlike the Serbs—is a master of strategy and operational war fighting.

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- 1 "Cohen, Shelton Joint Statement on Kosovo After Action Review," NATO Security Digest, No. 198, 14 October 1999, p. 6.
 - 2 NATO press release, 23 March 1999.
 - 3 Statement after the extraordinary meeting of the North Atlantic Council on 12 April 1999 and reaffirmed by the heads of state and governments in Washington, D.C. on 23 April 1999.
 - 4 NATO press release, 23 March 1999.
 - 5 From prepared statement of William S. Cohen, Secretary of Defense, to the Senate Armed Services Committee on 15 April 1999.
 - 6 The meaning of this term is similar to that of "concept of operations" (CONOPS) used in the U.S. military. The term "operational idea," however, is commonly used to make a distinction between the concept of operations at the operational level and actions at the tactical level.
 - 7 Clayton R. Newell, "What is Operational Art?" Military Review, September 1990, p. 9.
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About the Author

Dr. Vego has been professor of operations at the Naval War College, Newport, Rhode Island, since 1991. He has 12 years of active naval service in the Yugoslav Navy and spent 3 years as 2nd Mate in the former West German merchant marine. He has a Ph.D. in modern history from George Washington University and holds a Master Mariner license.

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Admiral T. Joseph Lopez, US Navy, Allied Forces Southern Europe, United States Naval Forces Europe and Commander of the Implementation Forces, native of Powellton, West Virginia, visits Serbian President Slobodan Milosevic in Belgrade. This first meeting was held at the Presidency Building. (USAF Photo by SSgt Lance Cheung), Official Photo by: SSGT LANCE CHEUNG, 1COMBAT CAMERA SQUADRON, BELGRADE, , Bosnia-Herzegovina (1996).

Photo Courtesy of DOD Imagery Collection

Myths of the Air War over Serbia Some “Lessons” Not to Learn

Dr. Grant T. Hammond

When blows are planned, whoever contrives them with the greatest appreciation of their consequences will have great advantage.

—Frederick the Great

Editorial Abstract: Did airpower win the war in Kosovo? In this companion piece to his article on the Gulf War in the Fall 1998 Airpower Journal, Dr. Hammond challenges opinions about the success of Operation Allied Force. Airpower may have achieved all the military objectives asked of it, but the resulting end state in Kosovo is unsatisfying. He warns that this apparent “success” of airpower may lead to its erroneous future use in lieu of valid national objectives and strategy.

This article is a sequel to my earlier piece “Myths of the Gulf War: Some ‘Lessons’ Not to Learn” (*Airpower Journal*, Fall 1998), which caused some consternation and discomforted many, for it seemed that I was criticizing airpower. I was not. I was criticizing those who do not understand its strengths and its limitations and who ask it to substitute for strategy. This article takes largely the same myths and tests those propositions against the backdrop of the air war over Serbia and the 78-day bombing campaign that the United States and its NATO allies engaged in, regarding the fate of Kosovar Albanians and the province of Kosovo.

A representative dictionary definition of *myth* is “a traditional story of unknown authorship, ostensibly with a historical basis, but serving usually to explain some phenomenon of nature, the origin of man, or the customs, institutions or religious rites, etc. of a people; myths usually involve the exploits of gods or heroes; cf. LEGEND.” It is also defined as “any fictitious story or unscientific account, theory, belief, etc.” and “any imaginary person or thing spoken of as though existing.” The headings in this article constitute imaginary beliefs about the air war over Serbia.

The propositions that follow represent commonly accepted assertions by, if not all, at least a large segment of both the American public and sectors of the American military. Once again, this is a cautionary note about the public’s unfounded faith in the ability of the American military in general—and the US Air Force in particular. It is not a question of the military’s ability to demonstrate its prowess in high technology as well as great tactical and operational skill—and to do so while sustaining low casualties. This it can do exceptionally well. But it is unrealistic to ask the military to do everything we ask simultaneously with other ongoing operations, poorly formulated strategies, and nonexistent visions of conflict termination and a better peace. Military capability is no substitute for viable strategy. The frequent use of military capabilities degrades them over time

without reinvestment on a substantial scale.

There was much good that flowed from the air war over Serbia. Ethnic cleansing was eventually halted, the Kosovars returned to what was left of their homes, and a modicum of order was restored. In that, NATO did not fail. But the whole operation was made up as we went along and left much to be desired.

It Was a War

This was not, strictly speaking, a war.

—Gen Wesley K. Clark
Supreme Allied Commander, Europe
NATO briefing, 16 September 1999

It was murder, ethnic cleansing, rampant looting and destruction, rape and pillage, guerrilla attacks, random firefights, and an air campaign. It was almost ritualized war, a demonstration effect that would lead to negotiations in three to five days. It began as “a drive-by shooting with cruise missiles,” as one analyst called it.¹ It was a contest between a 19-member coalition and the rump of Yugoslavia over the sovereign territory of one of its provinces, which remains a part of Yugoslavia (Serbia) but is occupied by NATO’s Kosovo Force (KFOR) troops and is neither independent nor autonomous. It became a serious matter when it was clear that NATO’s capability and existence were at stake. These then became the real objectives in the application of force.

NATO’s actions in the air war over Serbia and Kosovo were a series of extended raids, an air campaign, or an “air siege,” as Gen John Jumper, USAF, described it. But the ethnic cleansing by the Serbs in their Operation Horseshoe was wanton murder and terrorism, and NATO’s destruction of Serb infrastructure was undertaken with great care regarding collateral damage. Although both sides tried to kill the forces

of their adversary, the contest had little of the fierce, large-scale, random death that we have come to associate with war. We need a better term to describe what happened there. As Anthony Cordesman has commented, "One of the lessons of modern war is that war can no longer be called war."²

It's Over

Now they have . . . a job to keep the peace in the Balkans. It is quite possible that this job will last half a century too.

—Tim Judah, *Kosovo: War and Revenge*

Whatever "it" was, it's not over. The cycle of revenge killings, the animosity and hatred, the migration of refugees, and the military occupation of Kosovo continue, albeit with over 30,000 troops of a different military in place. What's more, KFOR forces are likely to be there for an extended period of time. Indeed, there is no "exit strategy," no end of military occupation, no conviction that if KFOR left, the bloodbaths would not immediately erupt again—just with different majorities and minorities. Indeed, it has spilled over into neighboring provinces and countries. One can hardly say it is "over," whatever that might mean.

The violence associated with the problems of Yugoslav secession and succession will likely continue. Some people go so far as to argue that actually a wider war will likely occur in the future—or at least larger issues will evolve out of the ones that remain unsettled.³ Albania, Montenegro, and Macedonia have all been destabilized to different degrees as a result of NATO's action in Kosovo. Italy, Greece, and Turkey have strong feelings about issues raised in the area and the treatment of various refugees. Bulgaria's support for overflights was a welcome addition to NATO's air campaign. The entire area will be affected for some time to come, and—given a history of divergent goals and aspirations—stability does not seem to be a hallmark of the region.

We Won

Winning means what we said it means: Serbs out, NATO in, and Albanians back.

—National Security Advisor Sandy Berger, 2 June 1999

But was that the test of winning? Those things have been accomplished—but to what end? If by "winning" we mean we stopped ethnic cleansing in Kosovo, we did not. It increased during the air campaign but eventually ended as the Serbs departed. If by this we mean we established an independent Kosovo, free of the clutches of Slobodan Milosevic and the Serb state, we did not. The ill-fated and wrongly named Rambouillet Accords did not contain even the promise of a future referendum on Kosovar independence. If by this we mean that we changed the Serbian regime and dispatched Milosevic, we obviously did not. Thus, there are no guarantees that the current situation can be sustained indefinitely. NATO is occupying the sovereign

territory of another country. For how long?

Just what did we accomplish? We got the Serbian army and national police to leave Kosovo. We have NATO's KFOR troops in the province performing largely constabulary duties to try to prevent arson, rape, murder, looting, and smuggling. As the Albanians have returned, the Serbs have fled, and ethnic cleansing now runs in reverse. Some two hundred thousand Serbs have left the area, and feuding has increased among the factions representing the Kosovar Albanians. Does that mean we won? Protecting the Kosovar Albanians seems to be a problem, even with the Serb military gone, and protecting the Serbs who remain in the area is a more difficult problem still.

We Accomplished Our Objectives

Operation Allied Force was an overwhelming success. We forced Slobodan Milosevic to withdraw his forces from Kosovo, degraded his ability to wage military operations, and rescued over one million refugees.

—Secretary of Defense William S. Cohen and
Chairman of the Joint Chiefs of
Staff Henry H. Shelton

As above, just what was our objective? If it was only driving the Serb military out of Kosovo, we did so. But nearly every public pronouncement on the air campaign and its objectives listed other goals critical to our success—or, more correctly perhaps, to Milosevic's defeat. According to the Kosovo/Allied Force after-action report to Congress, "From the onset of the operation, the United States and its NATO allies had three primary interests: *Ensuring the stability of Eastern Europe . . . Thwarting Ethnic Cleansing . . . [and] Ensuring NATO's credibility*" (emphasis in original).⁴ The first cannot be determined little more than a year out from the conflict, the second increased as we went to war, and the third is true if one believes that the test is NATO's making good on its threats. The aftermath of the encounter, however, remains to be seen.

We can't say we "won" because we did not accomplish the established goals. As stated by President Bill Clinton, these were "to demonstrate the seriousness of NATO's purpose so that Serbian leaders understand the imperative of reversing course, to deter an even bloodier offensive against innocent civilians in Kosovo and, if necessary, to seriously damage the Serbian military's capacity to harm the people of Kosovo."⁵ It is not clear that NATO military action caused Milosevic to withdraw; the ethnic cleansing began in earnest after the air campaign began; and the degree to which Yugoslav fielded forces were degraded is hotly debated but seems far less than initial claims. No territory has officially changed hands. No war was declared, and no peace treaty has been signed. Hostilities continue although the Serb military and paramilitaries have left Kosovo.

Technology (PGMs) Won the War

Overall, the pinpoint accuracy of the NATO air forces' delivery of precision-guided munitions against fixed targets in the Serbian theater was very impressive.

—Headquarters USAF, Initial Report,
The Air War over Serbia

We used a significant number of precision-guided munitions (PGM) in this war—indeed, 35 percent of all the munitions used were PGMs.⁶ And we exhausted much of our stocks of certain kinds of PGMs. The planes delivering the ordnance; the intelligence, surveillance, and reconnaissance capabilities of unmanned aerial vehicles; the prevalence of laser-guided bombs; the use of ordnance guided by the Global Positioning System; and our ability to utilize PGMs more effectively were all greatly enhanced since the Gulf War. So too were the far less costly, simple, and reasonably effective acts of deception used by the Serbs. But in a distressing preview of potential information operations by future adversaries, incidents of collateral damage—only 20 out of 23,000 strikes—had a major impact on both NATO and world opinion.⁷ It may well be that media superiority is more important than air superiority and that the PGMs which matter most are precision-guided messages.

Definitive “effects and effectiveness” studies of the aerial munitions used during the 78-day air campaign have yet to be released, but it seems that the reality of the original claims will have to be discounted—by exactly how much remains to be determined. We did well against civilian infrastructure—less well against a dispersed enemy already in place, not on the move, and well camouflaged among the civilian population of Kosovo. The precise reasons for the ultimate Serbian withdrawal remain unclear; one cannot assert that PGMs won the war. Coalition perseverance, Russian arm-twisting, internal Serbian political disagreements, failure to crack NATO’s political cohesion—all may have played an important role in that decision. We just don’t know.

The “Vietnam Syndrome” Is Over: US Military Might and Prestige Are Restored

NATO wanted to use military power as a bargaining lever, and you know what? It worked—and we didn’t lose a single airman in the process. . . . [Milosevic] ran out of options. None of that would have happened without airpower.

—Gen Wesley K. Clark

Depending on what one’s test of this proposition is, it may or may not be true. If we judge success on the basis of loss of American lives in combat, it was an unparalleled success. If, however, we judge success on the basis of accomplishing political and military objectives, some doubts are

raised. Moreover, taking the land-combat forces off the table at the outset does not bode well for future conflicts. It is right to prefer to fight from technological advantage. It is wrong to preclude any option at our disposal from the outset. The ghost of Vietnam lingers in the leadership’s not wanting to risk casualties. This is particularly true when it is not clear in the minds of the American public that the application of force is clearly in America’s self-interest.

But the “base instinct” of force protection, represented not only by the concern for US and NATO losses in the air war over Serbia but also by the unseemly building of Camp Bondsteel—a little Fortress America in the middle of Kosovo for US troops based there—gives lie to the notion of escaping casualty phobia. As Jeffrey Record has declared, “Minimizing risk—force protection—has become more important than military effectiveness. The Vietnam syndrome thrives, and Allied Force’s spectacular 78-day run without a single American or allied airman killed in action will stand as a beacon to future Presidents who want to use force without apparent risk.”⁸ Another analyst points out that if future adversaries see the reaction to casualties as a vulnerable center of gravity for the United States, then they will exploit it.⁹

We Can Do It Again If Necessary

*Is NATO to be the home for a whole series
of Balkan protectorates?*

—Henry Kissinger

Even attempting to do so would be highly unlikely. But fear exists that NATO may well have to deal with the “spillover” from Kosovo into Montenegro, Macedonia, or Albania and that conflicts in the region are not yet over. Because NATO has put out a marker once and declared itself concerned to the point of military action over stability on its periphery, “having another go”—as the Brits say—is a definite possibility. In effect, Kosovo has become a ward of NATO—it is not formally a protectorate, is technically still part of Yugoslavia, and has no promise of either autonomy or independence. How long will that be acceptable? It is almost a foregone conclusion that future conflict in the region will erupt. What NATO does about it is another matter.

Adding the thrust of NATO’s new “strategic concept” unveiled at the 50th anniversary celebration in Washington to its commitment to “crisis management” and the possibility of a new command for the Balkans seems virtually to guarantee further disruption and a NATO response. The problem is that the alliance may not hold together, China and Russia may be even more hostile to such action than before, and the rest of the world may not sit idly by while another instance of a “new imperialism” is conducted on the world’s televisions. Applying force in the southern Balkans again may be a very risky proposition, both militarily and politically. One may also see it as another test of NATO’s existence, if not its credibility. As an article in US Naval Institute Proceedings suggested, it may only be “halftime in Kosovo.”¹⁰

Others Paid for the Cost of the War

[The Center for Strategy and Budgetary Assessment] estimates that the deployment of seven thousand US peacekeeping troops to Kosovo would cost about \$2–3.5 billion a year. This figure reflects the incremental costs of the operation (i.e., the additional costs that would be incurred by the US military, above normal peacetime costs, as a result of conducting the operation). It does not include all of the costs associated with providing humanitarian assistance to Kosovar refugees or rebuilding homes, factories, and other facilities damaged or destroyed during the NATO air campaign.

—Center for Strategy and Budgetary
Assessment, July 1999

Like buying a horse, the cost is ongoing. Even with European members of NATO agreeing to assume most of the cost of the rehabilitation of Kosovo after the war and with United Nations Resolution 1244 for the UN to assist in doing the same, it will cost the United States a minimum of \$2 billion a year for a US contingent of seven thousand peacekeepers in the region. That is on top of an estimated \$3 billion for the US share of Operation Allied Force. Thus, despite getting a pretty good deal—we pay for the war, you pay for the aftermath—US costs for Kosovo will approach \$9 billion by the end of the current fiscal year. As long as we stay there, the costs will mount, and staying there may become the next test of NATO's credibility and existence, as unintended in the aftermath as they were in the conflict itself.

The implicit deal was that if we would do the bulk of the air campaign, the Europeans would provide the postwar funding for reconstruction and development. Little in the way of such funds has been received more than a year after the end of the conflict. Few people, if any, think that significant progress can be made in less than five to 10 years. Pessimists say 50 years is more likely. At a clip of \$2 billion a year plus the cost of the war, the cost to the United States is on the order of \$13 billion (low end) and \$28 billion (high end). Splitting the difference, something on the order of \$20 billion would be required, and that does not count foreign aid for refugee resettlement, rebuilding of infrastructure, housing, training of police, establishing a criminal justice system, and so forth. NATO's humanitarian impulse will be a very expensive proposition, and the US share—however small compared to the total—is not chicken feed.

Unlike Our Past Wars, the Air War over Serbia Represents an Almost Unblemished Record of Success, Superior Military Performance, and Accomplishment

[Reporter, repeating General Wald's assertion incredulously] Q: Of all the bombs we've dropped, 99.6 percent have actually hit the target out of the 20,000 bombs. What percentage? A: Maj Gen Charles F. Wald: 99.6 percent.

—Pentagon briefing, 2 June 1999

One is reminded of the old saying that there are lies, damn lies, and statistics. The Air Force is good—very good—at what it does. But it is simply not that good, claims to the contrary notwithstanding. First of all, what is the definition of a target? A factory is different from a desired mean point of impact, and a target set is different from a target. A lot of targeted SA-6s and Serb vehicles were not hit. There are always blemishes and failures—things that can be done better and results that are less than satisfactory. We had trouble with deception and decoys. We expended a lot of ordnance on mythical targets or radar sites that weren't there. We certainly did not have the success rate that General Wald claimed unless one wants to work backward and say that if there were only 20 errant bombs or missiles out of 23,000 launched, one can assume that all the others that didn't miss egregiously must have hit. Then we might get such a figure. But it is overreaching in the extreme to argue in this manner.

The operational performance of the air forces involved in the air war over Serbia—US Navy and allied as well as US Air Force—was exceptionally good. But those forces attempted to prevent something that airpower cannot do. An F-15E pilot cannot—unless he is very lucky, not just skillful—prevent a man with a Zippo lighter from burning his neighbor's barn or house or prevent another man with a knife from slitting a neighbor's throat. Doing so indirectly by attacking targets in Serbia was slow. Meanwhile, the terror in Kosovo continued. We should celebrate their skill in attempting to prevent what airpower could not ultimately prevent. But we should not overreach.

The Promise of Airpower Was Finally Fulfilled

Now there is a new turning point to fix on the calendar: June 3, 1999, when the capitulation of President Milosevic proved that a war can be won by airpower alone.

—John Keegan

London Daily Telegraph, 6 June 1999

What promise of airpower? If by this we mean Giulio Douhet's claim that airpower is both necessary and suffi-

cient to win a war, it appears it may have occurred—but we can't yet be sure. Stating that this is so is a case of *post hoc, ergo propter hoc*. There is no guarantee that this is the case. It appears that it *may* have at last been true. The application of airpower for 78 days over 37,000 sorties without loss of life in combat and only the loss of two planes (not counting the pilots and helicopters lost in the ill-fated Task Force Hawk) was truly remarkable. But we failed to destroy much of the fielded forces in Kosovo and instead destroyed civilian infrastructure in Serbia.

A host of other reasons could have entered Milosevic's strategic calculus and caused him to cave in to NATO demands. Even then, he got better than he would have gotten at Rambouillet. But we don't know why he did what he did. Did questionable targeting play a role? Did Russian envoy Viktor Chernomyrdin's visit do the trick? Did the absence of Russian support carry the day? Was he getting tired of getting his country bloodied for no real gain? Was there no chance to inflict casualties on NATO—his only real hope to crack the coalition? We don't know and may never know with certainty. Claiming it was due to airpower, although possibly true, may be overreaching. In any event, I would argue that the promise of airpower had been fulfilled long before the air war over Serbia. It was certainly demonstrated in the Gulf War, and one can make a solid case that it was demonstrated much earlier, in World War II. Here I add a myth to those addressed in my earlier article. It is the most important one for us to ponder.

The United States and NATO Accomplished Their Strategic Purpose through the Use of Military Force

Our objective in Kosovo remains clear: to stop the killing and achieve a durable peace that restores Kosovars to self-government.

—President Clinton, 22 March 1999

This is an important point. There was both a strategic failure in the disconnect between political and military objectives and a military failure in focusing on outputs rather than outcomes. The strategy adopted by NATO could reasonably guarantee neither the halt of ethnic cleansing nor self-governance for the Kosovars and a stable peace. Operation Horseshoe, the Serbs' ethnic-cleansing campaign, began in earnest after the bombing began, not before. Indeed, the agreement ending the 78-day bombing campaign places the future of Kosovo under UN auspices, where both China and Russia—opponents of NATO action to begin with—have vetoes in the Security Council. So, although some basis may exist for claiming another military triumph, it has not resulted in political victory. The purpose of going to war is to achieve a better state of peace, hopefully a durable one.

As Ivo Daalder and Michael O'Hanlon put it, "The stated goals of the bombing campaign were the three Ds:

demonstrating NATO resolve, deterring attacks on the Kosovar civilians, and failing that, degrading the Serb capacity to inflict harm on the Kosovars. But the military objectives of the bombing campaign were only indirectly related to the overriding political objective of achieving 'a durable peace.'"¹¹ The military objectives were perhaps achievable through the means applied, but the political ones were not. Taking the ground option off the table was poor strategy intended more to assuage Congress amid political crisis at home than to deliver a message to an international adversary. Having the military focus on its military objectives, however divorced from political requirements, is not a good precedent. The civilian political leadership and the military must jointly fashion strategy and specific goals. To allow a circumstance by which every successful "hit" against a Serbian military asset could be claimed as a degradation of Serb military capability may have been accurate semantically for the "spin doctors" of public relations. But unless this directly led to a durable peace, it was irrelevant to the political purpose.¹²

Epilogue

The air war over Serbia was a masterful demonstration of airpower skill in terms of its military operational employment. The inherent advantages of airpower—perspective, speed, range, flexibility, maneuver, mass, and precision lethality—have both good and bad attributes. They make airpower too easy to use. The United States possesses the world's only full-service, "24/7" air force. That's a priceless advantage. It also makes airpower a ready military tool that can be deployed and employed quickly; relatively cheaply, at least in terms of lives placed at risk; and often, as testimony to policy convictions. It exists simultaneously—or so we think—as deterrent, offense, and defense. But that is just the problem. As Eliot Cohen has suggested, airpower is like modern courtship. It gives the appearance of commitment without necessarily the substance.¹³ But if it is unhinged from strategy and political consequence, if it is merely used to punish and not coerce, if more is asked of it than the nation is willing to contribute, then airpower is squandered.

There is a double-edged sword in the apparent success of airpower. Able to be deployed and employed far from America's shores in support of US policy, it is often first to the fight. However imperfect an instrument to effect specific policy change on the ground, it is better able to apply force as testament to will than most of the other forms of military force—naval and land. That said, although it can readily be used, that may be its damning sin as well as its saving grace. Unless tethered appropriately to strategic intent and policy ends, it may be misapplied. Moreover, it is a finite resource. The people, platforms, and munitions are all perishable assets with both quantitative and qualitative limitations. And as forces get smaller, the ability to do several different types of air missions simultaneously over a long period of time becomes more and more difficult.

Airpower is a precious asset. Merely because it *can* be

used does not necessarily mean it *should* be used. When it is used, it should be used appropriately to maximize its inherent capabilities. A nearly flawless operational application of airpower cannot substitute for a flawed strategy. Similarly, a less than desirable end state cannot be laid at the door of airpower alone. Most importantly, if airpower is to be the preferred tool of American force in service of statecraft, then it must be properly resourced in order to accomplish the task. At the moment, it is not. The US Air Force cannot be the principal custodian of airpower, responsible for the control and exploitation of space as well as air, *and* the custodian of information superiority and defense for the US military against cyber attack—with a budget share once dedicated to air superiority alone.

If the UN, NATO, and the United States seek to rely on airpower to address future problems in the international arena, then it needs to be better supported with investments in physical, financial, and human capital. This is even truer of our allies than ourselves. Coalition war may soon become a fiction as fewer and fewer current or would-be allies are able

to acquire and utilize the technology involved in future air campaigns. If these are not forthcoming, then the capabilities will become hollow, and airpower will become incapable of fulfilling the tasks asked of it. It matters less whether these are of a lethal nature (as in the Gulf War and Operations Deliberate Force and Allied Force) or nonlethal nature (as in military operations other than war or humanitarian relief operations). Airpower is finite and ultimately limited.

In a curious sort of way, the myths of the air war over Serbia are part of the problem, not part of the solution in sustaining our investment in airpower. Claiming more than is its due is to be avoided. As the joint force air component commander himself—Lt Gen Mike Short, USAF, Retired—has commented about the air war over Serbia, “This was little more than random bombing of military targets that achieved victory by happenstance.”¹⁴ That is, luck may have had as much to do with our success as skill. Next time out, more attention to strategy and strategic effect and less on application of force to “demonstrate resolve” without regard to second- and third-order consequences, would serve us all well.

Notes

1. An oft-quoted and paraphrased remark made originally by Franklin C. “Chuck” Spinney at an Army War College Strategy Conference, April 1999.
2. Anthony H. Cordesman, “The Lessons and Non-Lessons of the Air and Missile War in Kosovo” (Washington, D.C.: Center for Strategic and International Studies, 8 July 1999), 9.
3. See the essays contained in NATO’s *Empty Victory: A Postmortem on the Balkan War*, ed. Ted Galen Carpenter (Washington, D.C.: Cato Institute, 2000), particularly those by Radu, Mearsheimer, Dempsey, and Rizopoulos.
4. Message from Secretary of Defense William S. Cohen and Chairman of the Joint Chiefs of Staff Henry H. Shelton that accompanied their *Kosovo/Operation Allied Force After-Action Report: Report to Congress* (Washington, D.C.: Department of Defense, 31 January 2000), 1.
5. President Bill Clinton, 24 March 1999 Statement of Objectives, quoted in Headquarters United States Air Force, Initial Report, *The Air War over Serbia: Aerospace Power in Operation Allied Force*, April 2000, 5.
6. Cordesman, 9.
7. *Ibid.*, 34.
8. Jeffrey Record, “Operation Allied Force: Yet Another Wake-Up Call for the Army?” *Parameters* 29, no. 4 (Winter 1999–2000): 16.
9. Earl H. Tilford Jr., “Operation Allied Force and the Role of Air Power,” *Parameters* 29, no. 4 (Winter 1999–2000): 37.
10. Maj Gen J. D. Lynch Jr., “Truth in Kosovo: Is It Halftime?” United States Naval Institute *Proceedings* 125, no. 8 (August 1999): 2.
11. Ivo H. Daalder and Michael E. O’Hanlon, *Winning Ugly: NATO’s War to Save Kosovo* (Washington, D.C.: Brookings Institution, 2000), 210.
12. *Ibid.*, 211.
13. See Eliot Cohen, “The Mystique of Airpower,” *Foreign Affairs* 73, no. 1 (January/February 1994): 109.
14. Comments made in an address to the Air War College, Maxwell AFB, Ala., 23 August 2000. Used with permission.

Contributor

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The abbreviated article below was originally published in Intercom magazine, September 1999. It addresses C2 systems used in the NATO HQ Combined Air Operations Center (CAOC) at Vincenza, Italy, during Operation Allied Force. Inserted into the article in italics are specific comments from Mr. Hunter Lambert, INRI Corporation, who helped draft the original article with Capt Scherrer while working at the CAOC. Within the article, Mr. Lambert adds additional lessons learned information on “what worked well” and “what did not work well” at the end of his comments. A list of acronyms is provided at the end of the article for reader reference.

The role of C2 systems during NATO Operation Allied Force

***By Capt. Joe Scherrer
C2ISR Systems Officer, AFCA
Scott AFB, Ill.***

NATO Operation Allied Force began March 23 with the aim of enforcing United Nations Security Council resolutions directing the Federal Republic of Yugoslavia to cease hostilities and withdraw its military and security forces from the province of Kosovo.

The air campaign ended June 21 with more than 42,000 sorties flown and 20 million pounds of munitions expended, after NATO leadership was assured that Yugoslav military and security forces were removing their forces from Kosovo.

Such an air campaign could not have been carried out without effective command and control of forces. Airborne C2 platforms such as AWACS and ABCCC assumed their normal pivotal positions in the C2 architecture. But for Allied Force C2, NATO commanders relied not just on AWACS, but also on personnel highly versed in combined operations supported by an extensive array of information technology, equipment, and networks. In a few key instances, these systems produced C2 innovations that proved tactically decisive during the air campaign.

Situational Awareness and The Balkan Operational Picture

At the Combined Air Operations Center (CAOC), Vicenza, Italy, the Balkan Operational Picture (BOP) formed the centerpiece of Allied Force battle management. Using a network of airborne and ground sensor feeds, the BOP continuously compiled and correlated air “tracks” in order to depict a complete view of real-time red and blue order-of-battle within the Balkan area of operations (AOR).

The BOP provided situational awareness for the on-going air campaign to the CAOC, to key C2 centers throughout the theater, and to higher headquarters right up to the National Military Command Center (NMCC) in the Pentagon.

[Many of the readers have heard of some of the stability problems with the comm link between the CAOC and the NMCC that resulted in outages from time to time. The comms were via the BC2A networks VSAT channel that went from CAOC Vicenza to JAC Molesworth to the ETCC in Stuttgart to the NMCC. This left lots of room for outages on the admittedly tenuous comms path. Often when outages would occur, it took John Carr or me to personally diagnose the problem with the BC2A network. It would be advisable to have a less convoluted path to higher headquarters, but any port in a storm I suppose.]

The BOP assured that common air track information was updated concurrently across all levels of command, thereby increasing the trustworthiness of the BOP for operational orientation and decision-making. A common use of the BOP during Allied Force was to provide electronic warfare threat awareness and alerting to the CAOC. EW operators used the BOP to identify electronic threats and then passed threat information via radio to allied airborne assets in time for the platforms to bypass or evade the threat. *[Readers will note that a GCCS/COP machine here receives TRAP and TIBS feeds. This is the machine that replaced the JSAS terminal in the EWCC cell in the battlestaff. The operators (US NAVY junior officers mostly) were EXTREMELY proficient in using the GCCS/COP software to fulfill their requirements. The fact that GCCS/COP does not yet provide for audible alertment when threat emitters enter the system was easily overcome by the fact that the terminal was manned with attentive and competent personnel. The operators in the EWCC cell advised me that they did not rely on the CIS machine next to the GCCS machine for EW situational awareness. It was only placed there because it DOES provide an audible alert for incoming threat emitters. Throughout most of the execution of target packages, the EWCC watch stander was the busiest person on the watch floor. During the Chaos they really streamlined their SOP to make effective use of GCCS/COP's current capabilities.]* In addition, Predator and Hunter unmanned aerial vehicle video feeds were embedded in the BOP, allowing the Battle Staff to watch “picture-in-picture” video of targets as the corresponding strike package approached the target. The overlay of live UAV feeds to the BOP allowed finer-grained assessment and control of CAOC current operations and air tasking order (ATO) execution. *[Embedding the UAV Video into the BOP on the*

main Barco was a popular and handy feature, but it did not prevent the installation of several monitors in the battlestaff for redundancy's sake. The Parallax video card functioned well. Often (quite often actually) we were able to see Serbian assets destroyed in real time under NATO ordinance. We are still waiting for Unmanned Aerial Audio to go with the Unmanned Aerial Video.]

The BOP architecture encompassed multiple sites and users using GCCS v3.0 Common Operational Picture (COP) software. The software was installed on Unix-based workstations attached to NATO classified networks and fused air, maritime, and ground pictures. *[The Ground portion of the BOP was not utilized. The personnel responsible for maintaining the CAOC's SFOR fed JOIIS database of ground units were retasked due to more pressing needs. Furthermore, there was (and is) no facility in place yet for KFOR to provide a JOIIS/PAIS database of ground units. This reporting structure has yet to be hammered out by SHAPE. The CAOC expresses diminished interest in the Ground Picture but does want it available in case it must be referenced.]*

The BOP was distributed to sites in Bosnia, Europe, and the United States. Additionally, a PC-based variant of the software, called C2PC, provided theater users access to the BOP from their classified NATO PCs. C2PC added an extra measure of utility and convenience for those users who needed access to the BOP from the NATO networks. *[C2PC was used to provide desktop BOP functionality to several people at the CAOC. General Gelwix (USAF, CAOC Director), General Tricarico (Italian Air Force, Commander, 5th Allied Tactical Air Force), and General Trexler (USAF, Deputy Commander 5th ATAF) all had it available on their desks. They preferred to monitor and direct events from the Battlestaff, of course.]* Another software process, called Enhanced Link Virtual Information System (ELVIS), allowed users to access the air picture through their web browser. *[ELVIS II (not ELVIS) was used to provide BOP on desktop at several peripheral cells for the purposes of monitoring the Air picture.]*

The existing communications wide-area infrastructure, including very small aperture terminal (VSAT) satellite links, were creatively used to route the BOP throughout the theater to support "down range" customers. Using this architecture, Allied Force leaders were kept apprised of the Allied Force air situation. *[I should elaborate on "downrange". The Top COP at the CAOC has several child nodes. One single machine in the 16th AF ROC in Aviano, A suite of three machines in Sarajevo (SFOR JOC, SFOR Heliops, and SFOR CAS Van), and a suite of machines at the ETCC EuCOM in Stuttgart. All nodes received a lot of attention during the air campaign. The weak link in the BOP dissemination architecture was the comm links. The GCCS/COP platforms remained more or less stable during the entire operation.]*

Let me add a few thoughts about what worked and what didn't work from my perspective:

What Didn't Work:

-We did not have available any of GCCS/COP's I3 capabilities. This is so for a number of reasons, but if it was available for use here, in our current configuration it probably would NOT have provided a huge boost to efficiency. The C2 "targeteers" have always been focused on using NATO's LOCE system and the tools therein. Without this place having a more proactively GCCS friendly command structure, an attempt to augment the C2 Cell with additional GCCS machines dedicated to I3 would probably have been viewed with disdain. However there seems to be no disdain over the fact that the TBMCS upgrade in the offing will include I3.

-The BC2A VSAT communications link back from here to Stuttgart and from Stuttgart was not reliable enough. Unreliable comm links are always the primary reason for perceived COP instability. This was frustrating.

What Worked Well:

-The COP. It just worked well. This version of MDXNet could be a little better, but improvements are forthcoming I hear. The uptime for Top COP and all child nodes was acceptable.

-Overlays. The operators here effectively utilized overlays to enhance situational awareness on the big screen.

-Callsigns: The fact that callsigns can automatically be extracted from the ATO and displayed as symbol labels was indispensable.

A note about ATO's: GCCS/COP's ATO capabilities are under utilized to some extent. One reason is due to a software bug, TDBM stops processing tracks when an ATO window is open so I have had to instruct personnel not to leave

a window open for prolonged periods. The personnel here, instead, still rely on CTAPS to do anything related to the ATO. There is a well developed ATO process in place using this hardware and software. The configuration here does not allow for effective use of GCCS/COP's ATO plotting capabilities.

-Digital MAPS: I had a full set of digital map products. 1:50,000 JOG coverage of the entire OR, DTED Level 1 for most of the AOR, 10 Meter CIBS for Bosnia, and some large GNC CADRG's for the theater. This provided some nice utility.

-Imbedded UAV Video: Explained above. This is a unique capability that I kludged together here that has been very successful.

Overall, I believe that GCCS/COP enhanced mission effectiveness and did well towards enhancing situational awareness here and at other nodes. This is its purpose and it performed well.

Biographic Information:

Hunter J. Lambert, is a Senior Systems Engineer for Logicon INRI, specializing in C4ISR and Common Operational Picture/ GCCS engineering and support since 1995. Prior to that, he was in the US Navy Submarine Force for 9 years.

Editor's Note: Article reprinted here with permission of *Intercom* magazine in an abbreviated version. Only the portions specifically addressed by Mr. Lambert are printed here due to space limitations. However, the complete article is available for review on the JCLL web page. Mr. Lambert's comments printed with permission of Mr. Lambert.

List of Acronyms:

B2CA	- Bosnia Command and Control Augmentation
CIS	- Communication Information System
CTAPS	- Contingency Theater Automated Planning System
EW	- Electronic Warfare
EWCC	- Electronic Warfare Coordination Center
GCCS/COP	- Global Command and Control System/ Common Operational Picture
GNC	- Global Navigation Chart
I3	- Integrated Intelligence and Imagery
JOG	- Joint Operations Graphics
JSAS	- Joint Situational Awareness System
KFOR	- Kosovo Peacekeeping Forces
LOCE	- Linked Operational Intelligence Centers Europe
SFOR	- Serbian Peacekeeping Forces
SOP	- Standing Operating Procedure
TBMCS	- Theater Battle Management Core System
TIBS	- Tactical Information Broadcast System
UAV	- Unmanned Aerial Vehicle
VSAT	- Very Small Aperture Terminal

Learning from Our Lessons

This report from the EUCOM Public Affairs Office provides details on the role of Information Operations (IO) during Operation ALLIED FORCE. It is extracted from the current JCLL Lessons Learned database and is provided to amplify the importance of an effective IO strategy. The next article shows the application of the lesson in daily operations at Camp Bondsteel, Kosovo.

UNCLASSIFIED

LESSON LEARNED REPORT

1. (U) JULLS NUMBER: 41348-68603, submitted by: ECPA, COL G HOVATTER, DSN: 430-8430.
2. (U) OPERATION ALLIED FORCE.
3. (U) Title: The “CNN Factor”
4. (U) OBSERVATION: For information operations, the Serb center of gravity was Slobodan Milosevic and his military and security forces in Kosovo. The NATO coalition’s center of gravity was the coalition’s cohesion. Milosevic generally used what were, in essence, the “interior lines” of information operations with greater agility and effectiveness than the coalition.
5. (U) DISCUSSION: While specific events were not predictable (e.g. Chinese embassy bombing), the types of events produced by the air campaign were. The EUCOM information operations campaign plan correctly anticipated Serbian reaction to/use of these events. The lack of a dedicated, theater-wide information operations structure meant the information operation campaign generally got “leftover” staff and command time and attention. If the operations and reporting chain is not involved in information operations the enemy will be inside our decision cycle when he launches an information attack to exploit burning refugee convoys or significant collateral damage incidents.
6. (U) LESSON LEARNED: Early establishment of a theater-wide, integrated information operations structure at all levels—tactical, operational and strategic—is critical to protection of friendly centers of gravity and the exploitation of opportunities to attack enemy centers of gravity.
7. (U) RECOMMENDATION: Develop a comprehensive, interagency coordinated and approved information operations campaign plan early. Design, source and deploy a theater-wide information operations “backbone” system designed to rapidly and efficiently manage the battlespace from an IO perspective. Train leaders at all levels on information operations.
8. (U) COMMENT: None.
--- (U) Tasks: 1. NTA 5.6

UNCLASSIFIED

Below are two additional reports on Information Operations during Operation ALLIED FORCE for further research by the reader:

Number	Operation/Exercise	Title
93791-17443	ALLIED FORCE	Observation-PSYOP Cost/Benefit Analysis
93791-28818	ALLIED FORCE	Issue-Leaflet Delivery Systems

This article shows the application of the lesson learned in the previous article. Specifically shown is how individual soldiers at all levels of command can implement an effective IO plan to achieve the desired results.

Information Ops Soldiers In Kosovo Try To Solicit Civilian Support

*By Anne Plummer
Inside the Pentagon*

CAMP BONDSTEEL, KOSOVO — As NATO officials engage in high-level political discussions with Serbian and ethnic Albanian leaders, U.S. soldiers in Kosovo are using the much lower-profile task of “information operations” to negotiate peace among local ethnic groups and garner support for NATO operations.

IO refers to the military’s efforts in obtaining superior information over its adversaries and heavily emphasizes the ability to attack and defend computer networks. A successful IO campaign means a military force can control the flow of information.

For Army forces here, IO is an umbrella term used to describe a variety of daily tasks doused in psychological operations to persuade popular opinion.

In a part of the world where “information is power” and reports from local authorities are often skewed, NATO troops are trying to earn the support of local civilians, who can, in turn, significantly influence their political leaders. One IO tactic is to give soldiers “talking points” to discuss with local civilians advocating pro-NATO ideas, while force commanders are given similar discussion outlines to engage community leaders.

U.S. forces oversee one of five NATO peacekeeping commands in Kosovo. The towns they patrol are overwhelmingly occupied by ethnic Albanians, but include neighborhoods with small enclaves of Serbs. Although both groups are politically independent now from the Serbian government in Belgrade — a result of the spring 1999 bombing campaign led by NATO — peacekeeping officials fear ethnic alliances could feed growing insurgencies along Kosovo’s border.

As NATO officials broker peace deals to quell violence along the border (see related story), U.S. soldiers in charge of information ops are hoping to influence local opinion in and around Kosovo by spreading as much accurate information as possible, said Maj. Austin Branch, who oversees the Army’s IO component here.

Branch said in an interview late last month that a major component of the IO strategy in Kosovo has been to provide humanitarian assistance, such as building electricity and water supply infrastructures, as a quid pro quo for further cooperation.

“If they cooperate with us, they know they will get more of this support from us,” he said. “But if they don’t cooperate — for example, they support [extremist groups] — then we really wouldn’t support them to build all the things they need to make their [lives] better.

“So there’s some kind of carrot-and-stick approach, and we have to understand what those leverage points or pressure points are,” Branch said.

One primary concern for NATO forces in Kosovo is the insurgency of armed Albanians forming along the Kosovo border and turning a demilitarized zone in Serbia, established in 1999 as a buffer for NATO, into a safe haven to build their forces. The United States oversees peacekeeping operations along the southeast Kosovo border and officials have become particularly concerned about Albanian extremists harboring nearby in the Presevo Valley.

“We can’t enter the Presevo Valley, but do we influence the people that enter [the buffer zone]? Absolutely,” Branch said, adding that soldiers have used IO tactics, such as distributing printed information and broadcasting spots on the radio, to communicate with ethnic Albanians there.

Editor’s Note: Reprinted with permission of *Inside The Pentagon* (copyright). The original article appeared in the March 15, 2001 edition of *Inside The Pentagon*.

Editors Note: This article was previously published by the US Air Force's Air War College, Maxwell Air Force Base, Alabama, as Maxwell Paper No 12. Due to its length, this article has been broken into four sections. This is section two. The final two sections will be published in the next two issues of the JCLL Bulletin. The first section appeared in JCLL Bulletin Volume III, Issue 2 (March 01) and it analyzed the role of doctrine in the integration process at the operational level. It also gave an assessment of basic guidelines, terminology, and control measures. In this second section, doctrine is evaluated and the results are contrasted with lessons learned and current operational issues to arrive at shortfalls or fallacies in doctrine. The third section will further analyze doctrinal control measures solidifying doctrinal shortfalls. Finally, the fourth section will provide corrective action to resolve the issues.

INTEGRATING JOINT OPERATIONS BEYOND THE FSCL: IS CURRENT DOCTRINE ADEQUATE? (Section 2)

By Dwayne P. Hall, LTC, USA

Doctrine Evaluation

Joint doctrine does not provide a battlefield framework as a guide that delineates the Joint Force Commander's (JFC) area of operation for deep attack, interdiction, air interdiction, interdiction fires, deep supporting fires, or joint precision interdiction (functions and effects). This is partially contributed to the fact that several of these terms or phrases are effects, based on an intended outcome rather than a specific target at a particular point on the battlefield. Perhaps this is one of the primary shortcomings. It is difficult to picture how the numerous operations are synchronized and integrated to attain the synergistic effects desired. Figure 2 provides a linear battlefield structure or framework containing some of the operations that may take place simultaneously in the deep battle area.

A review of the list of terms associated with deep operations indicate proliferation of inconsistent doctrinal terminology at the joint level. A detailed examination of the guidance contained in the list of joint doctrinal manuals and a graphical portrayal (Figure2) with associated terms, lend credibility to this accusation.

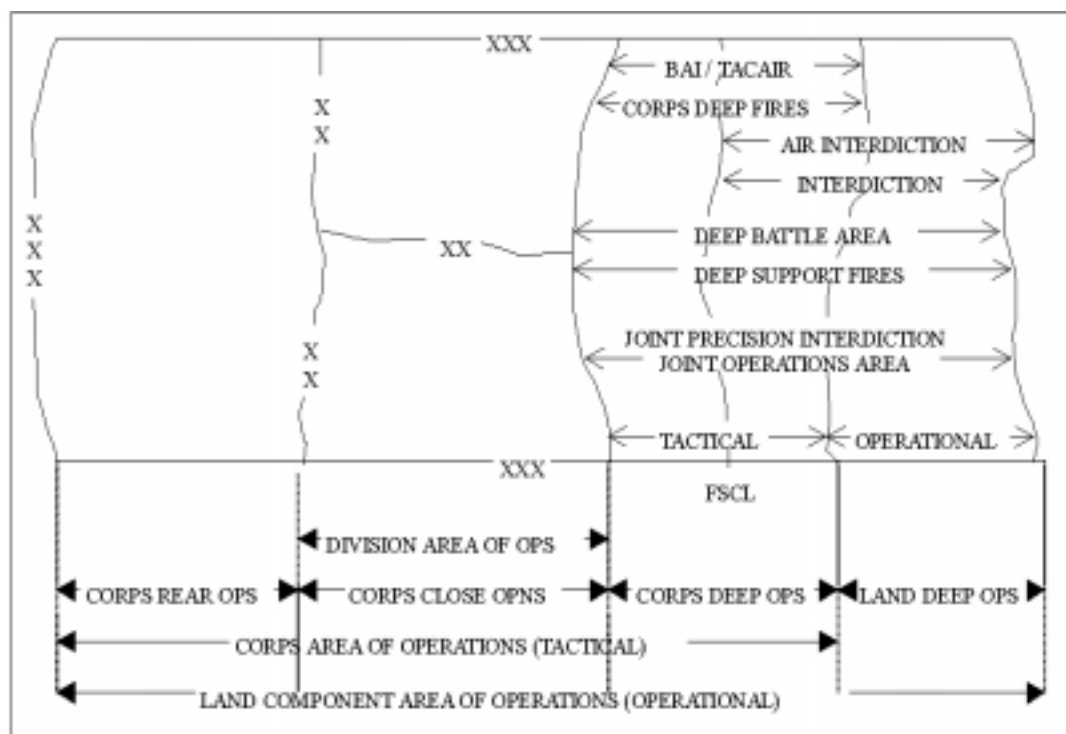


Figure 2. Joint Battlefield Structure.

After analyzing the numerous functions and effects associated with joint operations in the deep battle area, and Service interpretation and application, three fallacies in joint doctrine are revealed: 1) Doctrinal terms are vague and proliferated; 2) The overall concept for interdiction is ill-defined, and; 3) Graphical control measures are inadequate for separating roles and integrating functions.

Operation Desert Storm (ODS) provided numerous examples or scenarios that highlight these shortcomings in doctrine. The following chapters are dedicated to assessing the impact of these fallacies during ODS.

Doctrinal Terminology

Unlike the Army, the US Marine Corps interprets the FSCL as authority to fire beyond it, regardless of boundaries, without coordination. The Air Force interpreted the FSCL as a restrictive fire support coordination measure directly opposed to joint and Army definition.

—Desert Storm Deep Battle Observations

Terminology is the foundation on which doctrine and procedures are based. Terminology describing an operation employing airborne maneuver forces, artillery, tactical air, and remotely piloted vehicles must be absolutely concise and universally understood. Without common understanding in language, probabilities of mission failure and fratricide increase. A control and coordination measure that *integrates* and synchronizes lethal assets like the ATACMS, Apache helicopters and B-52 bombers, while special operation forces, reconnaissance elements, and civilians may be within 100s of meters, must be absolutely understood and universally applied! Conversely, the FSCL, a measure used for this purpose, was interpreted differently by air and ground forces during ODS.

Everyone must use and understand common terms—maneuver commander and fire supporter, Army and Air Force, and our allies. The most important and misunderstood term in this war (ODS) seemed to be the FSCL.¹

FSCL

The FSCL can be traced back to 1961. It replaced the old bomb safety line and was defined as a no-fire line between corps and higher echelons, and as a bomb line for ground and air forces.² Of special note it separated fires between two ground units (corps and higher echelons—field army) and separated fires (bombs) between ground and air. Ground commanders had few systems to fire or maneuver beyond the FSCL. This allowed the air effort to focus on the area beyond the FSCL with strategic attack and interdiction.

The current definition of the FSCL as found in JP 1-02:

Fire Support Coordination Line—a line established by the appropriate land or amphibious force commander to ensure coordination of fires not under the commander's control but which may effect current tactical operations. The fire support coordination line is used to coordinate the fires of air, ground, or sea weapon systems using any type of ammunition against surface targets. The fire support coordination line must be coordinated with the appropriate tactical air commander and other supporting elements. Supporting elements may attack targets forward of the fire support coordination line without prior coordination with the land or amphibious force commander provided the attack will not produce adverse surface effects on or to the rear of the line. Attacks against surface targets behind this line must be coordinated with the appropriate land or amphibious force commander.³

Over time, roles, responsibilities, and capabilities resulted in changes in interpretations of application for the FSCL. Table 1 provides a synopsis of current Service interpretations of its functions and uses.

The FSCL In Operation Desert Storm

The initial FSCL for ODS was established along the Saudi berm. The berm was a defensive measure established along the Saudi-Iraqi border. The fact that coalition forces fought an air war followed by a ground war, contributed to the initial FSCL being a “restrictive” measure as opposed to the “permissive” measure from the start. Since the Air Force was the primary Service involved in combat operations beyond the FSCL, there were no prevailing reasons for other Services to control operations beyond. Problems started and grew from this point.

The establishment of the FSCL on an international boundary restricted the corps’ ability to shape the battlefield and caused most of the corps fires to occur inside of the FSCL.⁴

The continuing confusion at CENTCOM level over the moving of FSCLs and their use by four different corps finally led to the implementation of a CENTCOM FSCL by General Horner, the JFACC....⁵

Table 1 - FSCL Interpretations

	Joint ^a	Army ^b	Air Force ^c	Navy ^d	Marine ^e
Establishing Authority	Appropriate Land or Amphibious Commander - after Coordination with Supporting & TAC Air Commander	ARFOR Commander	Not Stated	Ground Component Commander	Ground Component Commander
Purpose	Ensure Coordination of Fires Not under Control of Establishing Authority That May Affect TAC Operations	Allow ARFOR, Subordinate, Supporting (i.e. Air Force) Units to Swiftly Attack Targets of Opportunity	Define the Limits of Interdiction	Facilitate Attack of Targets Beyond; Endure Safety from Air Attack; Max Weapon Capabilities; Ensure Aviators Understand Battlefield Geometry	Ensure Control of Air-Ground Operations by Ground; Ensure Aviators Understand Battlefield Geometry
Coordination Requirements to Fire Beyond	Supporting Elements May Attack Beyond without Prior Coordination if No Negative Effects	Supporting Units Must Coordinate With All Affected Commanders to Avoid Fratricide (Air Force)	Command Authority for Interdiction	None for Supporting Elements	None
Application	Land, Air, Sea Weapons with Any Type Munitions	Not Stated	Not Stated	Land, Air, Sea with Any Munitions	All Weapon Systems - Any Munitions
Implications on Other Operations	Interdiction Not Bounded	Interdiction Occurs Short and Beyond - Planned Interdiction on Either Side Required No Coordination - Targets of Opportunity Should Be Coordinated	Interdiction Occurs Beyond	Not Stated	Not Stated

Sources:

^a Joint Pub 1-02 Department of Defense Dictionary of Military and Associated Terms, 23 March 1994, 219.

^b Field Manual (FM) 100-7, Decisive Force: The Army in theater Operations, May 1995, 7-4

^c DCS/Plans and Programs, Headquarters USAF, JFACC Primer, 2d ed., February 1994, 33.

^d Maj David H. Zook, The Fire Support Coordination Line: Is it Time to Reconsider Our Doctrine?, Fort Leavenworth, Kansas, 1992, 55.

^e Zook, 53.

The definition of the FSCL as contained in Joint doctrine contributes to improper uses of this type. There are three problems with the definition that foster these problems. First, the definition does not clearly specify *who* may establish an FSCL—the “appropriate” land or amphibious force commander is too ambiguous. During ODS, the FSCL was established by corps and higher-level commanders. Additionally, the rapid movement of corps elements caused numerous changes to the corps FSCL.⁶ This caused problems for all involved in that when individual corps commanders changed their FSCL, it caused the ARCENT consolidated FSCL to change too frequently. This caused problems for the Air Force in keeping their aircrews briefed on the current FSCL. Conversely, when ARCENT moved the FSCL, it did not fit the needs of the corps commanders. To facilitate stabilization, CENTCOM finally established an FSCL. Now, the FSCL was established two levels above the intended corps level.

Traditionally, the FSCL is established by the lower commander (corps) to allow him to shape the battlefield based on his estimate of the situation, disposition of forces, and asset capabilities. Corps FSCLs are then consolidated at the next higher level into an Army level FSCL. The frequent movement is offset by establishing a series of on-order (O/O) FSCLs disseminated ahead of time, and implemented as need. The rapid and unparalleled advance of coalition ground forces negated this practice.

Despite the events in ODS, joint doctrine should establish a standard by which all are trained to expect. Additional guidelines can be covered in theater SOPs or operations orders after the theater is established. The current standard stating the “appropriate commander establishes the FSCL” leaves room for all to apply their individual interpretation, which is what occurred during ODS.

Additionally, the definition of FSCL uses the phrase “supporting elements may attack targets forward of the fire support coordination line without prior coordination.”

The Air Force viewed the FSCL as a restrictive fire control measure that required the Army to coordinate all surface-to-surface fires beyond the FSCL with the Air Force.⁷

JP 3-0 states “the JFACC is the *supported commander* for the JFC’s overall air interdiction effort.”⁸ Yet, it infers operational land force commanders are designated *supported commanders* within their areas of responsibility (AOs) and are responsible for synchronizing maneuver, fires, and interdiction.⁹

The Air Force uses the FSCL as the separating line for interdiction. The FSCL is drawn within the operational commander’s AO (Figure 2). Who is really the supported commander between the FSCL and the forward boundary of the Land Component Commander’s AO? Are the desired effects interdiction or deep battle?

Again, the FSCL is a very important, but controversial coordination measure. The level of controversy between the Services surrounding its use and meaning, dictates joint resolution. This is not an issue to be left to interpretation.

The lack of common understood joint fire support doctrine and the parochial interpretation of fire support coordination measures caused significant problems in fire support coordination, particularly at EAC. Unlike the Army, the US Marine Corps interprets the FSCL as authority to fire beyond the FSCL, regardless of boundaries, without coordination, the Air Force interprets the FSCL as a restrictive fire support coordination measure, directly opposed to the joint and Army definition.¹⁰

There are additional points to be considered for a complete understanding of the FSCL. First, it is not a boundary and therefore should not be interpreted as a means of assigning responsibility. Second, there is no requirement to establish an FSCL. It is an optional fire support coordination measure established only after considering the factors of METT-T and system capabilities. Again, as an optional measure, it is not best suited to delineate responsibilities. Third, it is first a

tactical measure that may be established by individual corps commanders. It can, however, be established or consolidated by the ARFOR (operational level) commander as an operational level measure. Finally, the FSCL is a permissive measure, intended to allow relative freedom of engagement beyond. This is the exact opposite of a boundary which means restrictive engagement beyond. Both Army and Air Force interpretations portray it more as a restrictive measure. Again, joint resolution is needed.

Notes.

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2. Zook, 42 [shortened form]. 21
3. JP 1-02, 148 [shortened form].
4. JULLS, 15, [shortened form].
5. Zook, 137, [shortened form].
6. ARCENT MI Hist, Target Systems: Historical Analysis, 18, On-line. Internet, 19 December 1996, Available from <http://www-leav-akn.army.mil:1100/efswweb/webfile/call.html>.
7. JULLS, 22-25 [shortened form].
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9. Ibid., IV-15.
10. Center for Army Lessons Learned, *Deep Battle Observations Part 1*, 1992, 26, On-line. Internet, 19 December 1996, Available from <http://www-leav-akn.army.mil:1100/efswweb/webfile/call.html>.

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Charter For Joint Lessons Learned Program Configuration Management Board

1. Purpose

This charter establishes the Joint Lessons Learned Program Configuration Management Board (JLLP CMB) to evolve and maintain the JLLP as a single, unifying DoD lessons learned architecture.

2. Scope

JLLP CMB activities will pertain to the maintenance and evolution of the JLLP. The scope of the JLLP and JLLP CMB activities may be expanded by actions agreed to by the CMB.

3. Mission

The mission of the JLLP CMB is to manage the development of and maintain the changes in the DoD lessons learned architecture as it evolves to address new domains, technologies, standards, processes, issues, techniques, and protocols.

4. Organization

The JLLP CMB will be organized as follows:

A. Chair. *The Chief, Joint Exercise and Assessment Division, Joint Staff Directorate for Operational Plans and Joint Force Development, J7, chairs the JLLP CMB.*

B. Secretariat. *The Joint Center for Lessons Learned (JCLL) shall provide the secretariat to perform the JLLP CMB administrative tasks directed by the Chair.*

C. Configuration Management Manager (CMM). *The Joint Center for Lessons Learned (JCLL) shall provide the CMM to perform configuration management tasks directed by the Chair to include: to ensure the proper identification of the lessons learned configuration, to control changes, and to record the change implementation status of the physical and functional characteristics of the Joint After-Action Report (JAAR) architecture.*

D. Voting Members. *Voting members are the official representatives of the Joint Staff, Joint Center for Lessons Learned (JCLL), combatant commands, and the Services. The current voting membership of the JLLP CMB is listed in Appendix A. Voting members may be accompanied by interested parties pending classification, security, timing, and space considerations. The designated representative (or proxy) of the voting member is expected to be present during JLLP CMB meetings.*

E. Nonvoting Members. *Nonvoting member status is open to all interested participants. Nonvoting participation is at the pleasure of the JLLP Chair or the Secretariat pending classification, security, timing, space, and protocol considerations. The Chair, the Secretariat, the Configuration Management Manager, will otherwise be considered nonvoting members of the CMB.*

5. Functions and Responsibilities

A. *The JLLP CMB Chair will, as a minimum:*

- 1. Schedule and conduct meetings.*
- 2. Distribute an agenda prior to meetings.*
- 3. Present status of JLLP CMB activities to the WWJLLC (World Wide Joint Lessons Learned Conference).*

B. *The Secretariat will, as a minimum:*

- 1. Perform the administrative tasks associated with the JLLP CMB.*
- 2. Post meeting agendas, meeting minutes, updated rosters, and associated documents on the JCLL home page.*

C. *The JLLP CMB will, as a minimum:*

- 1. Fulfill the mission of the Charter.*
- 2. Establish subgroups to address standards, selected issues, and activities as necessary.*

D. *Each JLLP CMB Voting Member will, as a minimum:*

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1. Act as the focal point for the member's organization to resolve issues related to the JLLP.
 2. Coordinate support to subgroups as necessary.

E. Each JLLP CMB Nonvoting Member:

1. Will be approved for participation by the Chair/Secretariat.
2. May provide advice, assistance, and perspective on items brought before the board.

6. Procedures

The JLLP CMB will observe the following general procedures:

A. Standing Rules. The JLLP CMB may establish standing rules as required to effectively carryout this charter.

B. Meetings. The JLLP CMB will meet as required at the Chair's request. Meeting dates shall be arranged to minimize schedule conflicts and maximize participation. JLLP CMB meetings will follow an agenda published at least one week in advance, and are facilitated by the Chair.

C. Quorum. A quorum will exist when a simple majority of the voting members (or their proxies) are present.

D. Issues. Any voting member may raise issues to the Chair, and if requested, the issue may be added to the agenda for the next meeting. The JLLP CMB may ask the Chair to forward a technical issue to a subgroup for recommendations.

E. Decisions. JLLP CMB decisions shall be made based on a consensus of the voting members. Decisions concerning the scope, mandates, and standards in the JLLP CMB will require that (1) a simple majority of the quorum present vote in favor of a motion, and (2) no substantive disagreements are raised. The voting member(s) raising a substantive issue must submit a written rationale to the JLLP CMB Chair. The CMB Chair will forward the command's written dissension/rationale to the voting membership for staffing. The voting members will be given a deadline to submit their command's position to the chair who will make the final resolution based on the majority consensus of the opinions.

F. Charter Review. The JLLP CMB Charter will be reviewed and modified as necessary.

Appendix A

Joint Lessons Learned Program Configuration Management Board (JLLP CMB) VOTING MEMBERSHIP

Joint Staff J7/ Joint Exercise and Assessment Division (JEAD)
Joint Warfighting Center/ Joint Center for Lessons Learned (JCLL)
U.S. European Command (USEUCOM)
U.S. Central Command (USCENTCOM)
U.S. Southern Command (USSOUTHCOM)
U.S. Pacific Command (USPACOM)
U.S. Space Command (USSPACECOM)
U.S. Strategic Command (USSTRATCOM)
U.S. Joint Forces Command (USJFCOM)
U.S. Special Operations Command (USSOCOM)
U.S. Transportation Command (USTRANSCOM)
U.S. Element North American Aerospace Defense Command (NORAD)
U.S. Air Force (USAF)
U.S. Army (USA)
U.S. Coast Guard (USCG)
U.S. Marine Corps (USMC)
U.S. Navy (USN)

The following members at the Configuration Management Board approved this Charter on May 23, 2001:

USSTRATCOM
USSPACECOM (by proxy)
U.S. Element North American Aerospace Defense Command (NORAD)
USJFCOM
USCG
USN
JS J7 (JEAD)
USTRANSCOM
USCENTCOM
USEUCOM (by proxy)
JWFC/JCLL

The following commands were not represented:

USSOUTHCOM
USMC
USA
USSOCOM
USPACOM

DEPARTMENT OF DEFENSE

COMMANDER
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